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APRIL 1996

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Inside:

Irrigating Trees & Ornamentals

Aerification Options

Fertilizer Trends

Denver Market Report

10 Trends Shaping Industry

Market Savv

Light of the Land of the Land

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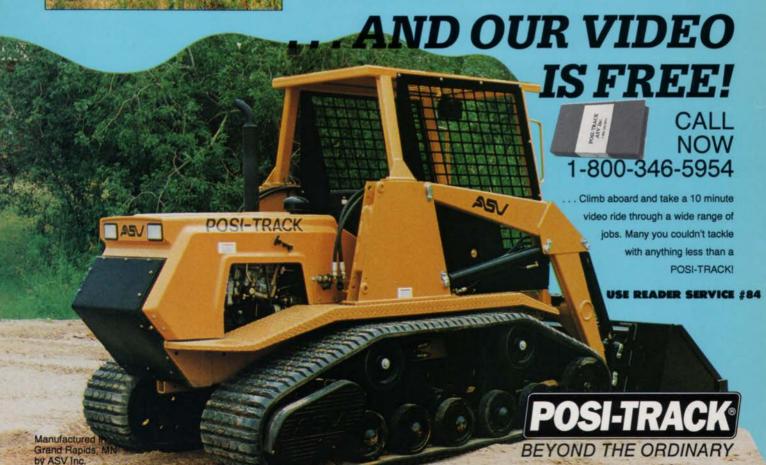
Low ground pressure allowed this Posi-Track to lay 115' sod rolls out in front, on a side hill.

The brushcutter mounts to the universal quick-attach and runs off the standard 25 gpm auxiliary pump.





The loader attaches to either end, and the seat is reversible. The 3-point hitch makes good use of the standard PTO shaft.

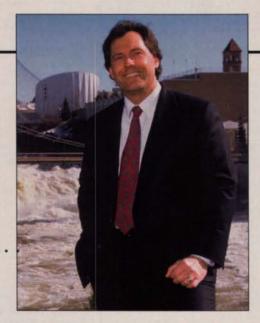


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Nick Follger, Spokane, Wash.

Cover Photo



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Irrigating Trees & Ornamentals: Find the Right Balance

It's both an art and a science to provide the proper irrigation for trees and ornamentals. Balance is important because too much or too little are equally damaging.

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Aerification can solve a variety of soil problems. The key is choosing the right equipment to match the circumstances.

48 Fertilizer Trends: Green Industry is Growing Up

Better educated contractors now micromanage their

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Metro Denver Market: Steady as She Goes

Driven by a new technology-based economy, Denver proves there's life after the oil market collapse.

64 10 Trends Shaping the Landscape

Change is always coming and it's best to be prepared for the future by spotting trends that are shaping our society right now.

Protecting Tall Fescue from Brown Patch

Careful fertilization, mowing and seeding practices can help reduce the growth of difficult brown patch on tall fescue grasses.



Susan Gihson Editor



y first job in publishing was in a company where it was not unusual for employees to stay for 30, 40 and even 50 years. Imagine that — spending one's entire working career — at one company. It seems inconceivable today.

In a recent opinion piece written for The Wall Street Journal, Frederick Reichheld asked why our nation's investments in work-saving technology, coupled with "downsizing," haven't paid off in productivity gains for service industries. Reichheld, who is a director of Bain & Co., a Boston consulting firm, maintained it was because manufacturing and service are so different. The assets of a manufacturing company, he said, are in the machines and processes used to produce and sell its goods.

It's different for service. In any service firm, the expertise and experience of the employees themselves are the assets. These assets grow as employees learn more about their customers through long-term relationships. The longer they stay at a company, the more service employees learn about their co-workers and vendors. When an employee leaves, the company loses that knowledge (or asset) forever, Reichheld added.

What happens to your customer when the employee leaves? The relationship usually returns to ground zero as another employee steps into the customer interface role and starts the arduous process of learning everything the former employee already knew. How does this affect a service company's productivity? Reichheld believes it's a major obstacle: "This customer and employee churn is productivity's principle enemy." Invariably, he added, this "churn" will consistently negate gains made through technical improvements.

In other words, while it is really important to have the best equipment and technology, a service firm can still be unproductive if the relationship falters because of turnover.

Improved employee measurement systems, clear career paths, incentives and strong company cultures can discourage employee turnover. This, in turn, should help discourage customer turnover.

Reichheld estimated that a company with 10 to 20 percent turnover annually eliminates its knowledge and experience assets every five to 10 years. What a waste! Smart contractors know how to make profit sharing, good benefits and loyalty to employees pay for themselves in high retention rates. And that improves productivity, morale and customer relationships. The value of employees is hard to measure, but you know exactly how much it hurts when an employee walks out the door. — Susan Gibson

Lawn&Lands

FDITORIAL

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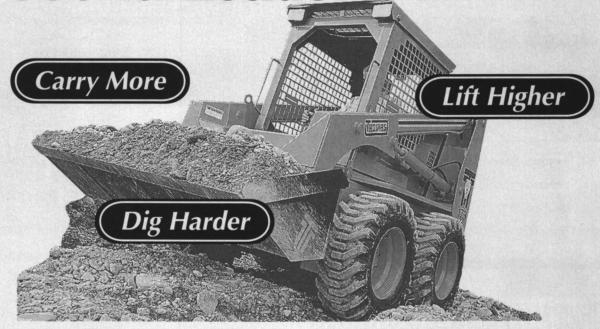
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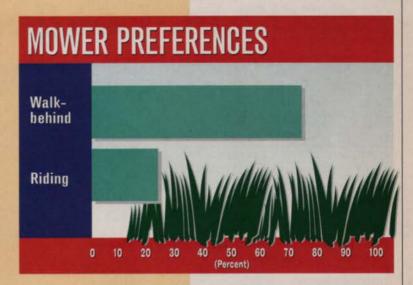
MARKET TRENDS

WALK-BEHIND MOWERS LEAD THE PACK

THE GOOD RESPONSE from our February fax survey show that an overwhelming majority of respondents purchase walkbehind mowers, compared to those that purchase riding mowers. The survey showed 75.5 percent said they buy walkbehinds, while 24.5 percent indicated they buy riding mowers. In addition, 19.5 percent of all those responding said they did not plan to purchase any mowers this year.

Spring is the most popular purchasing time, said 47 percent of respondents; another 22.4 percent prefer winter buying.

Nearly 11 percent said they buy mowers "as needed."



Joe Tinelli,

Landscape

the group is

president of the

New York Turf and

Association, said

willing to take the

fight as far as

legally possible.

Source: L&L Quick Reader Survey

TECHNICALITY REVIVES BLOWER BAN

LANDSCAPE professionals who do business in Scarsdale, N.Y., are scrambling to mount an appeal over a recent state supreme court ruling that could wipe out the use of gas-powered leaf blowers from June to October.

The 18-month legal wrangling over the village ban took a new twist in

Once again, gas-powered leaf blowers face an uncertain future for use during the summer months in Scarsdale, N.Y.

January, when a three judge appellate team of the state's supreme court found in favor of a village appeal to reinstate the ban. The appeal was upheld on a technicality.

Joe Tinelli, president of the New York Turf and Landscape Association, said the group is willing to take the fight as far as legally possible. In a written

> statement to association members, Tinelli said that other municipalities are looking at this decision and redoubling their efforts to pass blower bans.

> "If we stop now, this sense of new found power by these municipalities will take over in all areas and spread like cancer," he wrote. "We must hold our ground now and not be ridiculed by this temporary setback."

The defeat is a bitter pill for the local landscape industry after fighting for 18 months to have the ban lifted. The

battle between the village and the NYTLA began in spring, 1994, when citizens banded together to push for an all-out ban of blowers during summer months.

A ban was placed on gas-powered blowers that June, In Sep-

tember, the industry used the citing of a landscaper violating the ordinance to fight the law on the grounds that it was an undue burden on the industry. The judge ruled in favor of the landscapers, but in doing so failed to consider documents presented by village attorneys because they were submitted too late. In striking down the village justice's ruling, the panel of

judges said that the documents and testimony should have been considered, but gave no indication whether the ban would be upheld in future court challenges.

In other words, the Scarsdale landscape industry is back to square one. Tinelli expects that in June, contractors will cited for using their leaf blowers.

CROPS WEATHER FLOODTHREAT

It's too early to tell what the final tonnage tallies will be for the Pacific Northwest's turf seed crop, but seed producers say the floods that plagued the region this

(continued on page 8)

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MARKET TRENDS

(continued from page 6)

winter probably will not have a profound affect on seed availability or price.

The Willamette River, responsible for the flooding problems in and around Portland, dumped silt on turf seed fields along its banks, but the overall damage was minimal.

A combination of factors led to the flooding, according to Steven Tubbs, manager of seed research with Turf Merchants Inc., Tangent, Ore. Frozen rain and snow created an unusually thick snowpack on top of frozen ground, which melted, causing a tremendous amount of water to

(continued on page 10)

ASSOCIATION NEWS

ssociated Landscape Contractors of America scheduled its next Masters in Management for the Landscape Industry seminar for Aug. 2-3 in Chicago. For more information, contact Connie Whelchel at 800/395-2522.

The "Field Guide to Compost Use" serves as an easy-to-use reference tool outlining benefits and applications of compost in 12 different uses for the landscape contractor and nursery worker. Published by **The Composting Council**, the guide includes two new compost use guidelines and a planting backfill amendment. The guide, which is printed in English and Spanish, uses pictures and nontechnical language

to explain product quality and compost selection. For more information, call 703/739-2401.

Encouraged by the success of its 1995 public outreach campaign, the **Professional Lawn Care Association of America** recently launched the 1996 spring campaign to educate the general public on various industry issues. Last year's program reached an estimated 2 million people.

The California Landscape Contractors Association published a "Bibliography of Literature on Landscape Water Conservation and Management," documenting information available to researchers and contractors concerned with conserving water.

Nearly 1,300 citations of written material covering 13 sections are included in the 100-page book. For more information, contact CLCA at 916/448-2522.

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MARKET TRENDS

(continued from page 8)

enter the river and flood.

"The jury is still out —
it's unclear what affect the
floods will have on the
crop," said Art Wick, vice
president, research and
development with LESCO,
Rocky River, Ohio. He said
a concern with fields that
received a dose of silt is the
possibility of contaminants. "There may have
been weed seeds or unde-



Flooding in the Pacific Northwest will probably not impact turf seed supply or cost.

64 DEAR EDITOR? We welcome your opinions and ideas. Send your comments or suggestions to: Lawn & Landscape.

Great job with Lawn & Landscape! Best landscape magazine in the industry!

George D. Ward Jr., President Ward's Lawn Care & Landscape Co.

Just a note to let you know that I appreciate your new editorial approach with Lawn & Landscape. I see a new approach that will certainly help me continue to think in terms of the future rather than today. Our biggest challenge here in the Houston market is how to deal with today's issues in terms of how they will affect us in the future, both near term and long term. Stragegizing, planning and developing action tactics are difficult when dealing with immediate issues on a daily basis. Your new approach with Lawn & Landscape allows me a chance to stop, reflect and plan, not for today, but for the coming years and the next decade. Thanks for the change.

Dave Muessel, CCLP, President Inner Gardens Landscape Company Houston. TX

While I'm not one to comment on what I read, your business trends ("Tougher



Enter and

PURCHASED A LOTTERY TICKET LATELY? You have a better chance of winning the Lawn & Landscape 1996 Product Giveaway, and entering is free. We



even pay the postage! Jim Cleary of Cleary's Landscape and Lawn Service in Lakeland, Florida, understands this first hand. Out of over 6,000 entries his was chosen in the 1995 Product Giveaway to receive, among other products, free

equipment from Toro and Husqvarna.

LIKE MOST LANDSCAPE CONTRACTORS, Cleary is trying to maintain steady progress and growth in his business as he diversifies. His company is now expanding to include some design and irrigation services. "I don't win many things," Cleary said. "You don't know how much I can use this. I'm stunned, and I'm in need of some equipment," he continued.

ARE YOU IN NEED of some equipment? Entering is simple....

TO ENTER THE 1996 \$10,000 PRODUCT GIVEAWAY. complete the entry form on the opposite side of the card, remove it from the magazine, fold it in half, tape it and send it to us postage-paid by April 30th, 1996. Forms must be complete in order to qualify.

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5. No cash equivalent or prize substitution oftered. Prize is not transferable.

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Enforcement of Immigration Laws Expected") within the Southwest regional outlook of the magazine caught my eye.

I have a concern for the advice that was given in the last paragraph of the article; specifically, that one should keep photocopies of presented proof of citizenship. In my opinion, this would be one of the last things that you would want to do.

As a condition of employment, one must fill out INS Form I-9, according to its instructions. This form asks for what proof of citizenship was presented and that you have somehow verified its accuracy. As I'm sure you will agree, it can be difficult to ascertain accuracy when you are probably not trained to do so.

To keep copies of presented proof of citizenship could only implicate an employer should the employee turn out to be an illegal immigrant as a result of some type of investigation. This, of course, would lead to sanctions against an employer because he or she should have known that the provided proof of citizenship was counterfeit.

Sounds cynical but never provide or keep more than what is required.

Jack Hasbrouck

sirable grasses contained in the silt that might escape the (herbicides), which would hurt the quality of the crop in those locations. But we won't know that for some time," he noted.

Ironically, the significant rainfall may have had a positive effect, according to Dennis Combs, vice president of Fine Lawn Research, Lake Oswego, Ore. Because of restrictions against field burning as a method of regenerating a turf seed field, farmers have had to resort to using herbicides to clean out fields.

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AWN & LANDSCAPE magazine delivers superior, total coverage of the continually evolving professional lawn and landscape contractor market, from in-depth business trends and technical research reports to market analysis and new product introductions. For 17 years, L&L has provided industry presidents, business owners and top-level managers the most up-to-date information needed to effectively run their businesses.

Combs said a combination of environmental factors enhanced the activity of the herbicides, resulting in

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Greg Croteau Landscape Lead Portland (OR) International Airport The grounds crew at Portland International Airport save 210 manhours of ivy trimming and 330 man-hours of cotoneaster trimming each year — and <u>that's</u> money!



An Employee-Owned Company

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017/496

USE READER SERVICE #13

MARKET TRENDS

some injury to the turf crop. "The rains have acted to stop the adverse effects of the herbicides."

The seed producers agreed that stored supplies available this year are inordinately low, and strong demand early in the spring, regardless of any weather conditions, could have a significant impact on supplies and prices.

SANDOZ, CIBA PARENT FIRMS MERGE

Ciba Turf & Ornamental and Sandoz Agro Inc., two well known chemical players in the U.S. specialty

(continued on page 16)

TRANSITION

add Seitz, current chairman of the board at Scotts and CEO from 1983 to 1995, will serve as interim president and CEO until a replacement is found for Theodore Host, who resigned.

Robert Stohler was appointed vice president, international.





Tadd Seitz

Norman Giertz

Craig Ruppert was elected a Class B director of the Federal Reserve Bank of Richmond for a three-year term. Husqvarna President **David Zerfoss** was appointed to the board of directors of the Outdoor Power Equipment Institute.

Ray McGuirk has joined DesignWorks as a project manager and landscape architect.

Hunter Industries announced the promotion of Mike Kearby to vice president of marketing.

Norman Giertz was appointed president and general manager of Homelite, succeeding retiring president Robert Reid.

EverGreen International hired **Chuck Wonsetler** as sales manager for its Easy Rake line of outdoor power equipment.

Moving In. Moving Up. Settling Down.



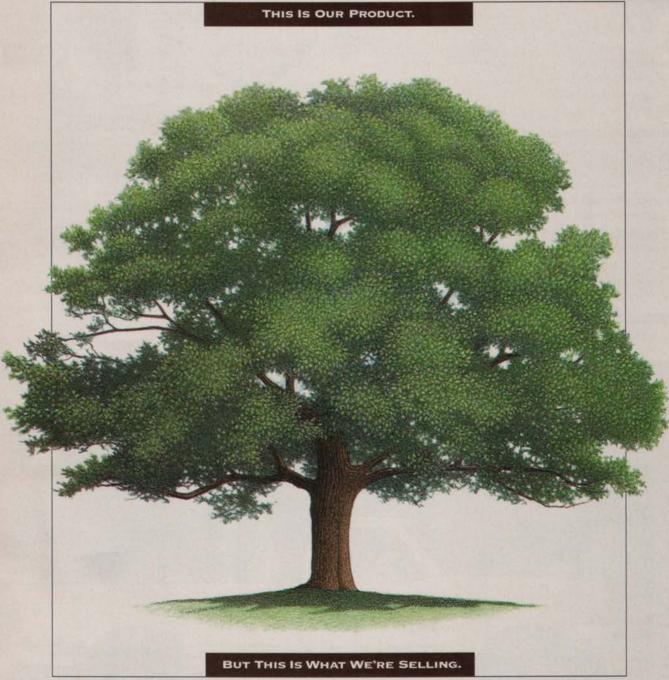
"Our homes are our castles" has never been more true than it is today. America's trend toward cocooning means people are investing more money than ever before in their homes. And that means pride of ownership is at an all-time high. Lawn and landscape services are a viable and important option for more and more of these homeowners – reach them through Metromail. Metromail's realty information puts you in touch with America's homeowners, whether it's New Movers, New Homeowners or Established Homeowners. Use Metromail's Homeowner lists, including names, addresses, and even phone numbers to reach more prospective customers in your business area.

Homeowner Lists from Metromail...
For the prospects you need when your message needs to hit home.

Call Randy Tribble at 1-800-822-3282

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Inside every container of Alamo" you'll find a strong, healthy tree. Because Alamo is the only fungicide that's effective in preventing oak wilt and dutch elm disease. Just call 1-800-395-TURF for more details on how it can help preserve a beautiful environment. Which, as you can see, is what we're really selling.



Sponsor Environmental Steward Award. ©1996 Ciba-Geigy Corporation, Turf and Ornamental Products, Box 18300, Greensboro, NC 27419.

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MARKET TRENDS

(continued from page 14)

pesticide arena, will soon become partners.

That's because their parents, Sandoz Ltd. and Ciba-Geigy Ltd., both based in Switzerland, recently announced their intention to carry out a \$27 billion-plus merger. The

merger is one of the biggest combinations in corporate history, according to *The Wall Street Journal*.

Although it's not known what will become of each firm's turf and ornamental business, industry insiders

say the merger is a positive step, resulting in a strengthened position for each firm. Ciba currently holds a strong position in insecticides and fungicides, while Sandoz holds a similar position with its herbicides as well as insecticides.



The merger, once approved by stockholders, results in a new company name, Novartis. A successful merger makes Novartis a global leader in the areas of weed control, disease control, insect control and seed treatment, according to news reports.

The combined product pipeline includes about 15 new compounds in the advanced stage of development or introduction focused on weed, disease and insect control.

It's not known how many will soon be introduced into the turf and ornmental market.

IN BUSINESS... The
Sports Turf Managers
Association has sold
chapter sponsorships to the
John Deere Turf &
Grounds Division and The
Scotts Company. They will
provide additional funding
to support the efforts of
various chapters...The 1996
Mid-America Horticultural Trade Show in
Chicago was the largest in

CORRECTIONS:

The research data used on page 6 of our January issue was conducted by Moore & Symons Inc., and provided to us by Sandoz Agro Inc., Des Plaines, III....The news item on page 20 of the February issue should read "Emerald Green Lawn Care, Indianapolis, Ind. has purchased Shrub and Turf, Athens, Ga."



It's as simple as that. Install the Mini-Clik rain sensor with your sprinkler systems, and your crews will spend a lot less time running around turning them off and on, or correcting the problems of overwatering. The world's best-seller, Mini-Clik is the most reliable and accurate rain sensor on the market – even under the most demanding conditions. In fact, it comes with an unparalleled five-year warranty.

its 23-year history, breaking the 10,000 mark in attendance and adding 58 more exhibitors...Century Rain Aid, Madison Heights. Mich., expanded its operations in the mid-Atlantic area with the acquisition of Hammonton, N.I.-based Aqua-Flo... Snapper and Troy-Bilt joined the grasscycling partnership between the Toro Co. and the California Integrated Waste Management Board to help find alternative solutions to placing 6 billion pounds of grass clippings in the state's landfills annually. They hope to encourage grasscycling through California's Public/Private Partnership Program.

MAY 3-4 Homestead International Plant Show, Homestead, Fla. Contact: 305/246-2113.

MAY 4 Shade Gardening: Using the Eastern Deciduous Forest as a Design Model workshop, Millbrook, N.Y. Contact: The Institute of Ecosystem Studies, 914/677-9643.

MAY 4 Irrigation Association **Certified Irrigation Contractors** and Designers examination, Las Vegas, Nev. Contact: Daria Jakubowski, 703/573-3551.

MAY 9 AND JUNE 1 New Jersey Society of Certified Tree Experts Seminar and Prep Course, Freehold, N.J. Contact: 908/591-1113.

MAY 31-JUNE 2 Christmas Decorating Conference, Pittsburgh. Contact: Kathy Bizon, 412/281-6352.

JULY 10-11 Central Pesticide Institute, Carlisle and Hershey, Pa. Contact: Pennsylvania Landscape & Nursery Association, 717/238-1673.

JULY 13 Pesticides Workshop, Casa Grande, Ariz. Contact: Arizona Landscape Contractors, 602/956-4252,

JULY 23-25 Pennsylvania Allied Nursery Trades Show, Fort Washington, Pa. Contact: 717/238-1673.

JULY 25-27 Turfgrass Producers Convention and Field Day, Sacramento, Calif. Contact: TPI, 847/705-9898.

SUBTRACT SERVICE CALLS.

Mini-Clik is inexpensive, too, and it's the ideal match for any irrigation system: new or retrofit. Help your clients conserve water, while you save costly service and maintenance calls. Call Glen-Hilton Products today at 1-800-476-0260, and learn more about the ways our money-saving products can enhance your profitability.

USE READER SERVICE #95







THE INSECTICIDE TO USE WHEN THE MAIN ACTIVE INGREDIENT YOU WANT ON THE LAWN IS AMY.

We thought an insecticide that controls grubs and other insects while using less active ingredient might appeal to people concerned about the environment.

Especially their children's environment.

That's where the brand new chemistry of MERIT® Insecticide comes into play.

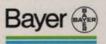
MERIT is effective at rates 85% to 96% lower than other conventional soil insecticides.

Which means you can get an average of 94% control of grubs,
while putting less active ingredient onto your customer's lawn.

What's more, when applied in the spring, MERIT provides enough residual
activity to effectively control grubs throughout the summer.

To find out more, contact Bayer Corporation, Specialty Products,
Box 4913, Kansas City, MO 64120. (800) 842-8020.

Because the only thing that belongs on your customers' lawns
in high concentrations are their children.



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ENVIRONMENTAL FORUM









HEY SAY that "things happen first" in California. However, when it comes to trends in waste disposal and recycling, the Golden State is clearly behind the times.

With more open space and a shorter history of settlement and urbanization than many Eastern and Midwestern states, California's garbage hasn't yet top-

ped the brim of our landfills. But garbage is piling up nonetheless. That's why the state passed the California Integrated Solid Waste Management Act in 1989. The act required cities and counties to divert 25 percent of their solid waste by 1995 and 50 percent by the year 2000.

Since 15 percent to 20 percent of the solid waste stream consists of green waste — leaves, grass clippings, tree branches and so forth — it should be no surprise that communities are targeting this material to meet their diversion goals.

The California landscape industry, therefore, has a strong interest in finding new and expanded uses for green waste.

Composting is the major solution, of course. Last year, California approved regulations that make it easier for small composting operations to achieve compliance with environmental health standards. Unfortunately, making it easier to compost is only part of the battle. Unless the demand for compost products keeps

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IDEAL FOR HARD COMPACTED HIGH TRAFFIC AREAS: (PTO POWERED)

FOR BARE GROUND RECONDITIONING: The Aera-Vator's vibrating action fractures the hardest soils.

- · Optional rake levels and fills in low spots
- · Optional roller pulverizes and smoothes out spots

FOR TURF AERATING:

- · Swing hitch aerates sharp turns without tearing turf
- · Durable for aerating turf over rocks and roots

FOR SEEDING/OVERSEEDING: GANDY SEEDER ATTACHMENT

- · Reconditions and seeds bare soil or existing turf!
- · Remove or install seeder in 15 minutes

Degree of soil loosening is easily varied by tractor gear selection.

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ENVIRONMENTAL FORUM

up with a substantially increased supply, the market could be flooded in no time.

Agricultural use of organic compost seems to be just what the doctor ordered to improve the physical, chemical and biological properties of croplands. Farmers, however, are leery about applying organic materials of unknown origin and quality. Pathogens, weeds, excessive nitrogen and heavy metal content are legitimate concerns. Compost users need a way to assess the safety and value of compost made from municipally derived materials.

Rather than rely on a new bureaucracy and additional governmental regulation to establish and enforce product quality standards, interested parties created the California Compost Quality Council.

CCQC is an independent council of farmers, compost producers, soil scientists, landscape contractors, agricultural advisors, university professors, soil laboratories and recycling coordinators.

Organized last year, its goal is to increase confidence in compost by allowing its seal on those that meet its quality guidelines. The California Landscape Contractors Association has a seat on its board of directors.

CCQC's initial guidelines require feedstock composting for a sufficient time and at a sufficient temperature to render most weed seeds not viable and to achieve pathogen reduction. Trace elements have to meet specific standards. The compost producer must implement a quality control program to minimize contaminants.

The producer must allow CCQC representatives and prospective users to inspect the production facilities and obtain samples for laboratory analysis. The guidelines also require producers to disclose to users, upon request, certain information about the compost process and the properties of the product.

Compost producers who wish to register their prod-

ucts and display the CCQC seal are charged a small fee based on their production scale. Income generated from fees will fund the CCQC, which is currently in the process of hiring a technical consultant to implement its program.

Now, thanks to the CCQC, users of compost can have extra confidence in the compost they buy. That can only be good for the landscape industry! — Larry Rohlfes

The author is the director of governmental affairs for the California Landscape Contractors Association. For more information on the CCQC, call Rohlfes at 916/448-CLCA.



CALIBRATING HAND PUMPS AND SPRAYERS

GETTING complaints about weed control on a customer's lawn? Perhaps the actual pesticide use does not match the total that should have been applied.

Chances are your equipment needs fine tuning or the technician must pay closer attention to the nozzle height, spray pressure and travel speed.

Applying pesticides with hand pumps, hand cans and backpacks requires constant attention because many operating parameters can change without notice.

When using a manual backpack or hand gun

nozzle, four factors are critical to delivering the correct application:

- · The exact pressure.
- · Proper walking pace.
- · A uniform hand/arm motion.
- · Relatively constant nozzle height and angle in reference to the ground.

Most of these sprayers do not have pressure gauges or controls, but the pressure drops continuously as you spray. Therefore, you need to repressurize the tank at frequent intervals.

It's also wise to check the calibration of the sprayers often to be sure the proper amount of pesticide is being applied. The following methods are effective:

(continued on page 99)

FIND YOUR CALIBRATION RATE

To spray at 1.5 gallons per 1,000 sq. ft. first determine the actual application rate. Let's use a sample problem. Suppose you determine that it takes two minutes to spray a 500 sq. ft. area. You spray into a bucket for two minutes and measure the volume of liquid in the bucket. For this example, we'll say it is 5.5 pints. What is the application rate in gallons per 1,000 sq. ft., gallons per acre and the percent application error?

 $5.5 \text{ pints } \times 1,000 = 11 \text{ pints}$ 500 sq. ft. 1,000 sq. ft. (1 gallon = 8 pints)

11 pints x 1 gallon = 1.38 gallon 1,000 sq. ft. 1,000 sq. ft. 8 pints

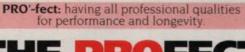
OR ...

1.38 gallon x 43,560 sq. ft. = 60.11 gallons 1.000 sq. ft. acre acre

(1 acre = 43.560 sq. ft.)

Percent Application Error $= 1.5 - 1.38 \times 100 = 8 \text{ percent}$ 1.5

The application rate is 1.38 gallons per 1,000 sq. ft. and it should be 1.5. This is an 8 percent application error, which is unacceptable (it shouldn't be more than 5 percent). Reduce the walking pace and repeat the calibration steps to correct the error.



E PROFECT

Weighing just 6.8 lbs., the new PROFORCE ECS-3301 is the lightest top-handle saw in its class. Its excellent power-to-weight



ratio makes it easy to get more done with less fatigue.

> The New **PROFORCE** 3301 Chainsaw rear-handle PROFORCE 3351

Our AirForce™ System

features the latest advancement in air induction and filtration technology. For operator safety and comfort, it has a floating, anti-vibe engine; safety throttle lock; and chain brake. To enjoy PROfection, see your

Tanaka dealer or call 206-395-3900.

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Our Buildings Are A Cut Above





Lester pre-engineered building systems are designed around your needs for an attractive, affordable and energy efficient structure. Quality components plus the industry's leading warranty provide long term satisfaction! Call today for more information.

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USE READER SERVICE #23

Confidence for Today's Environment.



SCIMITAR* insecticide gives both you and your customer confidence for today's environment. Because SCIMITAR delivers superior control of major turf and ornamental insects like mole crickets, fire ants and chinch bugs—in just seconds. Without harm to plantings and without an odor that can cause your customer concern. With advanced pyrethroid chemistry in matching formulations.

A non-restricted use insecticide, SCIMITAR is available in two highly-effective formulations:

SCIMITAR CS, a timed-release liquid for fast knockdown and extended residual, and SCIMITAR WP, an easy-to-use powder in water soluble packs.

SCIMITAR turf and ornamental insecticide giving you confidence for today's environment.

For more information, contact your Zeneca representative, or call 1-800-759-2500.





ZENECA Professional Products

Always read and follow label directions carefully. SCIMITAR* is a trademark of a Zeneca Group Company ©1996. Zeneca Inc. A business unit of Zeneca Inc. Senske Lawn
& Tree Care offers a
diverse mix of services to
six very different markets.
As if that isn't enough,
some areas have
completely different
climates and growing
needs.

By Susan Gibson



USINESSES aren't stagnant. They take on a life of their own — growing, contracting, expanding again. They stress employees and resources to the maximum. They have growing pains. They mystify owners, challenging them to reinvent the company from time to time.

The interesting thing about business is that the learning curve never levels out. Even the most experienced companies must learn new methods and adapt to change. Most owners accept this situation because the business is the work they want to do, and Chris Senske, president of Senske Lawn & Tree Care, Kennewick, Wash., is no exception. His company, which was started soon after World War II, has seen its share of ups and downs, new ideas and old solutions.

Currently, Senske Lawn & Tree Care is a major player in an area spread across 300 miles, from Seattle to Coeur d'Alene, Idaho. Geographically, the area offers a wide range of climate, soil and horticultural differences. Seattle's damp, temperate weather is in direct contrast to the high desert climate of eastern Washington state. Each branch is unique.

It's a full plate of services and market conditions that keeps the Senske management team hopping. The challenge is to continue to grow in increasingly competitive markets, find the right balance of services for

each branch and retain as many customers as possible. The method is nothing new — a traditional emphasis on good customer service and building a quality company.

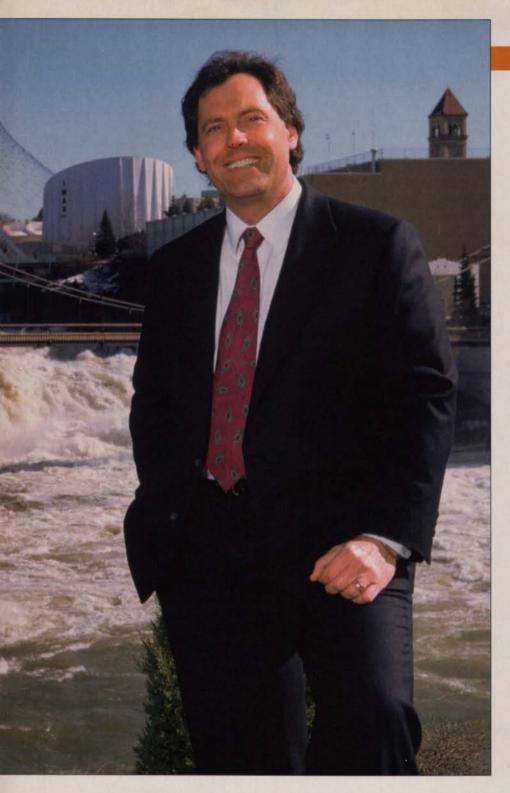
MARKET MIX. At first, Senske's mix of services and markets seems complex — some markets focus on chemical lawn care, others on tree care. Some local economies are robust, others are flagging. The company is spread out over hundreds of miles, which in itself is a logistical challenge. Add to that the fact that the plants growing in one area don't even like growing in another.

Senske's main focus is chemical lawn

(Right) Chris Senske today, near the Spokane River Falls in Spokane's Riverfront Park. (Left) Chris Senske posed, center, ready to spray a lawn at age 7, at a traditional Father's Day public service outing to keep mosquitoes and ticks away at YMCA Camp Reed, north of Spokane, Wash.

Cover credit: Nick Follger, Spokane, Wash.

MarketSavy



care for residential customers, which is where it all started. William Senske, Chris' father, was a chemical engineer who gained experience with 2,4-D and other common landscape chemicals during the war. In 1947, he started spraying lawns in Spokane for 50 cents each, gradually building up the business.

Managing the company was not originally in Chris Senske's plan when he took a "temporary" position after graduating from the University of Washington, Seattle, in 1974 with a chemistry degree. He had responsibility for a few employees, which he described as "getting an education real fast in real life."

He noted that as early as 1976, the company considered an expansion into another geographical area because the

(continued on page 28)

Senske Lawn & Tree Care

HEADQUARTERS: Kennewick, Wash. BRANCHES: Spokane, Yakima, Walla Walla and

Redmond, Wash.; Coeur d'Alene, Idaho.

FOUNDED: 1947 OWNER: Chris Senske

PRIMARY SERVICES: Chemical lawn care services total about 30 percent of the business, followed by tree spraying and pruning services (at 22 percent); grounds maintenance services (16 percent); landscape contracting (12 percent); pest control (12 percent); and vegetation management (8 percent). Landscape contracting services will be phased out this year.

EMPLOYEES: 100 year round, 175 peak season

VEHICLES: 130

1995 SALES: \$8.2 million 1996 PROJECTIONS: \$8.2 million

Executive Summary

THE CONCEPT: Provide good customer service and build a quality company.

FUTURE CHALLENGES: Grow geographically while focusing on the company's core competencies, retaining customers and being a quality company.

The President

CHRIS SENSKE

AGE: 43

AVERAGE WORK WEEK: 50 hours

BACKGROUND: He grew up in the business that his father, William Senske, began in 1947, as a lawn spraying company. After graduating from the University of Washington in Seattle with a degree in chemistry in 1974, Chris worked full time. He took over control of the company in 1980 through an agreement with his father, then expanded the business by offering a variety of services in six different markets.

EQUITY: 100 percent



Evaluating preemergence turf herbicides can be like comparing apples and oranges. True, all of them control weeds. (To some degree, at least.) But a closer look reveals big differences. When you consider all the products on the market, you'll find:

- A lot of them focus on low price.
- That's usually because they don't have much else to offer.

s. DIMENSION

Dimension® turf herbicide, on the other hand, gives you real value. Dimension offers premium performance, along with extra benefits that make your job easier. Here are a few reasons why Dimension stands out from the competition:

- Dimension provides unmatched crabgrass control.
- It controls crabgrass all season long—without breakthroughs.
- Dimension also handles goosegrass, oxalis and spurge.
- Fall applications help you manage unwanted Poa annua, as well as crabgrass and other weeds.
- Altogether, Dimension takes care of more than 20 tough weeds.
- Dimension works before or after crabgrass appears, extending your application window.
- It's completely non-staining—all you see is great-looking turf.
- You can stretch the long-lasting control of Dimension even further with split applications.
- Dimension works at low use rates.
- It's labeled for lawn care and golf course uses.
- Dimension offers the application flexibility of sprayable EC or granular fertilizer formulations.
- You can overseed just three months after application.
- And you can always count on exceptional turf safety.

To find out more about the benefits of Dimension, see your local Rohm and Haas distributor.



Weed control beyond compare.

ALWAYS READ AND FOLLOW LABEL DIRECTIONS FOR DIMENSION TURF HERBICIDE.



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(continued from page 25)

managers felt they had "saturated the market in Spokane" with the company's 350 customers.

The move to Kennewick allowed Senske to expand into commercial services such as grounds maintenance. "At the time, Spokane didn't have the nice industrial sites it has now," he said.

Kennewick did and its market supported the grounds maintenance business. Its location is near the giant Hanford Atomic Reservation, run by the Department of Energy. The site, which measures approximately 20 by 20 miles in size, is a major employer in the Kennewick (or Tri-Cities) area, employing as many as 20,000 people in a job market of 60,000 people. It also attracted associated research and technical facilities which needed commercial landscape work.

Michael Pugh, certified arborist, prunes an oak in Spokane. Many tree care services eventually lead to lawn services in Senske's markets.

Even though the Hanford Reservation no longer handles plutonium and is scheduled for a cleanup, the program is projected to last between 20 and 50 years, which will contribute to the long term stability of the economy.

The initial success of the Kennewick commercial business naturally led managers to try it in other markets, with less success. "Even though we had the lion's

share of the commercial business, we didn't really make a lot of money on it," Senske recalled. It was tough making the service profitable, and in 1982, the company dropped it and returned to the



core business of chemical lawn care and tree services.

About the same time, the tremendous growth by ChemLawn and other firms led

(continued on page 30)



It's time to
"SHRAKE" Rattle & Roll
with the
NEW SHRAKETH
Perforated Shovel



- Landscaping
 - or colour O
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- · Treasure Hunting
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Distributor Inquiries Invited

Patent Pending ——
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DURSBAN ELIMINATES 140 INSECT PESTS BECAUSE ALL IT TAKES IS ONE TO BUG A CUSTOMER.

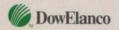


Most customers tend to overreact. Discover one lawn pest and they think they're infested. Never mind that most customers can't tell the difference between a sod webworm and a night crawler.

Keeping customers' lawns insect pest free is what Dursban* insecticide is all about. Not only is it a dependable and economical broad spectrum insecticide, but it has also been formulated to provide you an effective residual on most turfgrasses and ornamentals.

One thing for sure, use Dursban and customers won't be bugging you with their insect pest problems.

For further information on Dursban, or any other product in the extensive line of DowElanco products, give us a call at 1-800-352-6776. Always read and follow label directions.





(continued from page 28)

Senske to offer a similar program of automated chemical lawn care. "We moved from a very customized to a program-oriented service," he noted.

After the move to Kennewick, Senske Lawn & Tree moved into three other

BRIC-EI

PAVER RESTRAINT

Designed for Use by Landscape and

Masonry Contractors

BRIC-EDG can be installed under the paver or you

can butt it up on the outside of the paver

ORIGINAL

L-SHAPED

PAVER

Our flexible style makes curves

easily without any extra cutting

or snipping.

markets between 1982 and 1984. The branches in Walla Walla, Coeur d'Alene and Yakima each represented smaller metropolitan areas with unique economies and customer mixes. Then, in 1990, the company ventured into Redmond, Wash., a suburb of Seattle.

This was a whole different cup of tea.

SEATTLE MARKET. Geography posed a and the company made its move.

noted. "It's wet in the winter and dry in the summer. In the cool, wet climate, bluegrass suffers an onslaught of poa annua, rye and bentgrass. In our other 'desert' markets, bluegrass is more dominant." Senske technicians had to figure out how to treat the dominant grasses and keep them looking lush amid different climatic conditions.

"Seattle is also different in the way people live. When the residents have a drought, they don't care if the lawn is very green because when it rains, the grass greens up anyway," he said. "Also, the lawns are not the focus of the property like they are in other areas. People in Seattle like plants with lush foliage that can grow in that environment. I'd say the average lawn is maybe only 2,000 or 3,000 square feet with a large planting of something colorful.

"In that market, we sell tree care. We have a high penetration of tree pest control work that turns into lawn care customers," Senske added.

In its other markets, Senske offers a combination of commercial lawn care services, pest control, vegetation management for institutions and local governments and even landscape contracting. In most cases, the company grew at a healthy pace in each market.

Recently, the managers decided that the landscape contracting section was not profitable enough and have phased out that work. Senske sees potential in commercial grounds maintenance services and has reentered that arena.



new challenge to the company as it moved into the Seattle market. "This is a different kind of market and it reguired a different tactic to sell our lawn care business," he explained. Previously, the company focused on smaller markets and it worked out well. The Seattle area was just "too attractive" to ignore "Seattle is different agronomically, climatically and culturally," Senske

(continued on page 32)

MOST PEOPLE ARE ECSTATIC AT HOW EFFECTIVE CONFRONT IS AT MAKING THEIR BROADLEAF WEEDS DISAPPEAR.



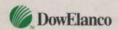
With Confront* herbicide, lawn care and landscape professionals know they're covered. Because no postemergent herbicide controls broadleaf weeds better.

Confront brings you a new standard of broadleaf control on both warm and cool season turfgrasses.

For over 35 different species of broadleaves, from

dandelions and clover to oxalis and ground ivy, Confront is the one herbicide that won't let you down.

For further information on Confront, or any other product in the extensive line of DowElanco products, give us a call at 1-800-352-6776. Always read and follow label directions.



(continued from page 30)

QUALITY PEOPLE. It's easy to talk about hiring and keeping good people, but in practice, it takes a lot of effort. Senske has cultivated employees by stressing the importance of building a quality company. Currently, it employs about 100 people year round, with another 75 joining at peak season. These figures are down from an all time high of nearly 250 people when the landscape contracting business was still in existence.

Chris Senske describes his role as "providing the marketing push and deciding where we're going." He directs the advertising, marketing research, marketing and financial programs.

In addition to a variety of job benefits, the Senske management team participates in an bonus incentive plan based on profitability goals. Superintendents, branch managers and department managers have responsibility for meeting financial goals and if they match the projections, are given a bonus. The system has been in place for about eight years, Senske noted.

EXPERIENCE COUNTS.

Senske related his experience with business ups and downs in a recent interview:

Q. Tell me about your company's history of growth.

A. We had an all-time high of growth in the early 1970s - probably it averaged as much as 22 percent profit. Now, we have a more realistic number. In a typical year, we figure 5 percent is doing

'Our customers tell us exactly what they want from us — be there on time, tell them when we're going to be there, tell them what we did on their property.

well. Because of our losses with landscape contracting, I'd estimate we're only at 2 percent. Our goal is to raise that to 10 percent in the next four years.

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newick area, we have had serious ups and downs based on changes in government policies. The Hanford cleanup project resulted in approximately 6,000 people being laid off in the area - a major blow. Obviously, that dictates how people feel about their homes and com-

(continued on page 90)







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ATER. It covers almost three-quarters of the earth's surface. Without it, we would die and so would plants. Like humans, plants need a constant amount of water to function properly. That's why underwatering and overwatering can cause serious problems for trees and ornamentals.



Injecting water deep into a tree's root zone decreases evaporation and the chance of runoff. Credit: Albin Dearing, Davey Tree.

water Everywhere. Too much or too little water can cause severe damage or plant death. Proper watering bal-

ances the oxygen supply to roots — while overwatering quickly depletes the oxygen reserves. Checking soil moisture regularly is an important step that may prevent overwatering and underwatering. Experts warn not to wait until the tree begins to show injury because by that time, the plant may be damaged considerably.

"Too much water can drown and suffocate plants because the water replaces the air space in the soil and it suffocates the root systems," said Bal Rao, manager of research and development at The Davey Tree Expert Company, Kent, Ohio. "Some plants tolerate it better. But if overwatering becomes a habit, the soil will become saturated and the roots tend to go to the surface to get oxygen."

Excess water can also affect the nutrient uptake, causing discoloration and defoliation. Existing roots may be attacked by diseases like *Phytophthora* and shoe string root rot, which prefer excessive moisture.

Excessive mulch can aggravate the problem because mulch holds in water and doesn't allow the roots to obtain oxygen. Also, overwatering turf can hurt nearby plants.

But too little water is also very danger-

(continued on page 30)



In narrow landscapes and beds, sprinklers can be used for irrigating trees and shrubs. Check the soil moisture frequently to ensure adequate irrigation. Credit: The Davey Tree Expert Co.

It's both an art and a science to provide the proper irrigation for trees and ornamentals.

Balance is important because too much or too little are equally damaging.

by Jennifer Mathewes

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(continued from page 34)

ous, Rao said, because 80 to 90 percent of plant cell content consists of water. When moisture is lost, plant tissue can be destroyed. High temperatures and lack of moisture can cause scorching and plant tissue dieback. "Once tissue is damaged, it rarely recovers," he noted. "It's similar to burns on humans sometimes the tissue will not recover.

"The drought of 1988 caused such extensive damage that some trees and plants still haven't fully recovered," Rao continued. "In general, too much or too little water weakens the plant and makes it susceptible to insects and diseases."

Dehydration can also occur when soil water is frozen and the plant can't absorb moisture. Small evergreens can be very susceptible to dehydration. During the day, leaf surfaces lose moisture through transpiration. Because the soil is frozen, plant roots aren't able to take up the moisture needed for survival and the leaves turn brown.

IRRIGATION METHODS. To ensure that the plants are getting adequate water, place a coffee can in the area that is being watered with a sprinkler. Water the tree until about 2 inches of water collects in the can. A good rule is to water under the canopy of the tree so that most of the roots get enough water.

Attach a watering lance to a hose to get the water into the root system more efficiently and deeply. This method also decreases evaporation and the runoff that occurs when using a sprinkler.

Check the soil moisture around trees frequently, especially if trees or shrubs were transplanted within the last three to five years. Newly transplanted trees often come from a protected environment with different soil conditions and irrigation. It takes trees several years to recover from the shock.

(continued on page 38)



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(continued from page 36)

To check the moisture level, remove a small amount of soil from the root area using a soil probe or trowel. It is too dry if it crumbles in your hand instead of holding together in a moist ball. It is too wet if water comes out when squeezed slightly. Adjust the water accordingly.

DELIVERY OPTIONS. Common ways of irrigating a lawn are not necessarily the best for watering woody plants. Soil type, average rainfall and water quality will determine the best method.

An oscillating sprinkler may not give uniform distribution and may need frequent moving to cover large areas, said Rao. A pulsating sprinkler distributes water evenly, but can cause runoff in dry soil.

A soaking hose, or a hose with holes in it, is good for soaking soil near a tree, but isn't practical for trees with a large diameter. Manually watering the tree with a hose does not usually provide enough water and is time consuming.

DESIGN IS IMPORTANT. One of the best ways to control irrigation is to design a landscape according to terrain, said Marianne Waindle, horticulturist and technical advisor for The Davey Institute. If the landscape is on a slope, it is wiser to run the irrigation system parallel with the slope instead of against it. That way, shrubs and trees at the bottom of the slope may get runoff naturally and will avoid being overwatered.

"The ideal irrigation system design would include input from an irrigation specialist, arborist and landscape manager," she noted. "They could work together to design a landscape that would encourage healthy growth and good water usage. Sometimes, the placement of irrigation heads is badly designed and water hits the trunk of the tree. Decide in advance who will monitor the irrigation to save future headaches."

Len Burkhart, manager of technical services with Davey, recommended careful installation. "If the lines are too close to the surface, they can be punctured by subsurface fertilizer applications or lawn aerification techniques."

REGIONAL VARIATIONS. Different areas of the country may have different problems with irrigation, said Roger Funk, vice president, human and technical resources for Davey. In the arid West, salt buildup from irrigation may need to be manually flushed out of the soil because there are no heavy rains to wash it out.

High salt content can happen when the irrigation source is a pond, Burkhart



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(continued from page 38)

noted. Ponds may collect runoff from nearby streets that are salted for snow. When salt collects in a pond and is used on the landscape, it causes a breakdown in soil structure and plant damage.

Northern contractors should drain the irrigation lines before winter to prevent the water from freezing in the lines and damaging the sprinkler heads, said Funk. In some areas, the pH level of the water is too alkaline and may need acids to correct the level. "Periodic testing of the water quality and the pH level of the water is a good habit to develop."

Different types of soil and weather place different demands on irrigation and plants. The clay soil of the Southeast requires longer intervals between irrigation than sandy soil, said Burkhart. "It's difficult to water the trees deeply in clay soil because the water has a hard time penetrating through the soil. Often, people apply too much water and think they're getting water to the roots, when the water really just puddles and runs off. They're irrigating faster than the soil can absorb the water."

On the flip side, sandy soil dries out quickly because it drains so easily. so trees and shrubs in sandy soil should be watered more frequently.

OVERWATERING MISTAKES. This is a problem especially in the Southeast, said Waindle. "Irrigation systems there usually are older. Water is plentiful and cheap, so contractors are not forced to use more sophisticated water management methods or watch water use carefully."

Water bans can also make it difficult to irrigate correctly. Burkhart explained: "If that means you have to water a lawn

Check the soil moisture around trees frequently, especially if trees or shrubs were transplanted within the last three to five years.

at a less than ideal time, you should still water it. Watering at a bad time of day is better than not watering."

"People think that just because they have an irrigation system, they are OK," Waindle said. "But that's not true. You need a specialist to monitor the system to ensure that the plants are being watered properly. Bad irrigation can negate a lot of the good work you do."

The author is a communications specialist with The Davey Tree Expert Co., in Kent,



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Aerification helps control thatch, provide a resilient soil surface, relieve compaction, encourage root development and improve drainage for all types of turf. Credit: Ransomes America Corp.

Aerification can solve a variety of soil problems.

The key is choosing the right equipment to match the circumstances.

By Paul Rieke

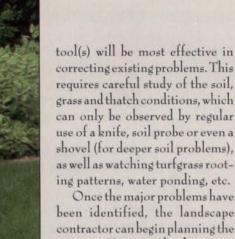
ERIFICATION is a turf management practice that is often misunderstood. Unfortunately, the problems to be solved are for the most part underground and unseen. Most turf managers would agree that aerification (also called cultivation) is needed on many turf sites. But why do we bother with this practice, which results in creating such a mess on the surface? A review of the basics is helpful.

Soil compaction is the most limiting soil problem with many types of turf. This is a natural problem. If the soil was not compacted during construction and establishment of the turf, it would be compacted by maintenance equipment and normal use. Turfgrass sites are frequently used when the soil is wet, which permits soil particles to be packed closely together, increasing compaction.

In the process, there is a loss of large pore spaces necessary for good drainage (both infiltration and percolation), aeration and root development. Because compaction is so prevalent, the most important objective of aerification is to reduce compaction of the soil. The problem may be shallow, deep or throughout the soil profile.

Other objectives of cultivation treatments include: to control thatch buildup; to break through soil layers when accompanied by topdressing materials; to provide a more resilient soil surface; to aid in control of localized dry spot; and to assist with renovating turfs. On a given turf, one of these problems may predominate, but more typically, two or more may exist.

PLANNING A PROGRAM. When planning an aerification program, it is essential to first evaluate the turf and soil conditions before one can determine which cultivation



Once the major problems have been identified, the landscape contractor can begin planning the program. Fortunately, there are a number of different kinds of cultivation tools available today from which to select. Understanding

what each aerifier will accomplish is a necessary step in the process.

SPOON AERIFIERS. There are several different types of aerifiers that use spoons mounted on wheels or drums. The spoons may be open or closed at the end. With most of these, the spoon enters the soil at an angle. As the unit moves forward, the spoon moves from front to back, causing a stirring action in the hole. Depth of penetration may reach three inches, but is often less.

The benefit of these units is speed, but the spoon spacing is usually quite wide. Multiple passes will be needed to attain a closer spacing of holes. Depth of coring holes, amount of soil brought to the surface and the degree of soil loosening is considered low to modest, depending on the particular type of equipment, soil conditions and how many passes are made over the turf. Because of the speed of operation, this type of aerifier is most often used on athletic fields, home lawns, fairways, roughs and general grounds.

Some spoon type units do not penetrate beyond an inch or so, with little soil loosening effect. They may remove some thatch, but provide few other benefits. Unfortunately, some of the lightweight aerifiers used in the lawn care industry belong to this category. They are cheap, permitting competitive bidding, but the treatment contributes little to the improvement of compaction.

Selling Aerification Services

awn care companies are quickly realizing one key to growing their business can be offering a variety of services, such as core aeration. But how do you convince potential customers they should pay to have someone put holes in their front yard?

Many manufacturers of aeration equipment have produced brochures to convince potential customers, both residential and commercial, of the importance of aerification:

- Why Aerate My Lawn, from Turfco, Minneapolis, Minn., tells potential customers that soil compaction and thatch buildup occur naturally over time and aerification opens up the soil and breaks up the thatch for an increased flow of nutrients to plant roots. The brochure also mentions that timing is a key to successful aerification. "For most grasses, the best time to aerify is just prior to or early in the fast growing season," which is early spring and fall for cool-season grasses and mid-spring or early summer for many warm-season varieties.
- Ryan, a division of Ransomes America Corp., Lincoln, Neb., emphasizes the long-term benefits of aerification on a lawn. The literature explains that the benefits will actually be visible after just one aeration, and turf that is aerified annually becomes much healthier and stronger over time by taking better advantage of water and fertilizer applications and improved air exchange between the soil and the atmosphere.

Continued aerification over the course of several years also benefits turf growth by mixing the soil with the thatch buildup. An aerified soil will be made up of more pore space, ideally balanced 50-50 with solid soil, for moisture and gas containment.

• Potential customers need to understand the long-term value of aerification, according to a brochure by the Grasshopper Co., Moundridge, Kan. "Remind them that the cost of aerifying is offset somewhat by the reduced need for pesticides and irrigation," it noted.

OPERATING-TINE AERIFIERS. This type of aerifier has been the industry standard for many years for use on high use areas. The high speed impact of the tines on these aerifiers normally provides good loosening of the soil. Further, significant amounts of soil are brought to the surface, depending on tine size and spacing. This soil can be worked back into the turf and thatch, or it can be removed from closely mowed turfgrasses.

Hollow tines are normally used on these aerifiers, but solid tines have also been used effectively under certain conditions. Hole spacing ranges from 2 inches to as wide as 4 inches. Obviously, the closer spacing will provide more effective soil loosening.

Tine diameter varies from 1/4 inch to as large as 1 inch. Larger tines are more often used with wider spacings. Hollow tines remove soil, making it easier to work topdressing into the aerifier holes. Filling these holes is particularly important if soil layers are present within the soil depth reached by the aerifier tines.

Solid times have been used with good results under certain conditions, but our view is that this should be an occasional



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aerification

practice. Small diameter solid tines have been used successfully on compacted soils with little turf injury during high stress periods when it is not wise to disturb the playing surface or injure turf roots.

Research at Michigan State University suggests that solid tines will be somewhat more effective if the soil is a bit dry because there is greater shattering of the soil when it is drier. However, there is also greater potential for injury to roots when the turf is dry

and greater loosening of the soil also occurs. The small diameter solid (or hollow) tines have been helpful when used on compacted areas or on localized dry spots during the summer.

Both hollow and solid tine cultivation can cause the development of a "cultivation pan" in the soil layer just

Why Aerify?

eration is the action of oxygen entering the soil, according to Paul Rieke, professor of turfgrass management at Michigan State University, E. Lansing. It is the physical result of aerification, which is the creation of holes or slits in the turf to allow aeration to occur. Aerifying · Improve rooting

- can achieve the following:
- · Relieve compaction · Thatch control

- Improve infiltration
- · Break up soil layers
- · Improve internal drainage
- · Relieve localized dry spots
- · Improve oxygen in the soil
- Renovate turfs

beneath the depth reached by the tines. This occurs over a period of years of cultivation to the same depth.

Aerifying with a unit that reaches deeper into the soil has helped correct cultivation pan problems. It is important to vary the depth of cultivation if possible because this will reduce the po-

Program Tips

reg Schreiner did things a little differently than most of his peers in the industry. He built the foundation of his business. Aeration Consultants. Denver, Colo., on aerification service before expanding into exterior landscape maintenance and installation. Striving for profitability under these circumstances has taught him some important lessons about running an efficient aerification program. Here are a few tips:

 Schreiner uses one man crews with one aerator and a pickup truck. Not having a trailer to tow is safer and more efficient for parking

and unloading, but it requires purchasing a machine that will fit in the back of a pickup.

He expects each individual to complete 10 to 12 lawns per day. At the end of each day, the crewman is required to do some basic maintenance on the machine. Fittings are greased, the tines and chains are cleaned and sprayed with a lubricant and the oil is changed after every 20 hours of use to avoid rust.

- Schreiner said companies starting out should have at least two units so one is available in the event of a breakdown. Each should have tines able to pull plugs that are 2 to 21/2 inches deep.
- Schreiner urged avoiding the temptation to lowball the competition. "If you have to go into the market at a lower cost than some of the competition, look at a five dollar difference," he

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tential for a pan layer to develop. Finer textured soils will be more susceptible to a pan development than sands.

VERTI-DRAIN TYPE UNITS. A version of the vertically operating tine units is the Verti-Drain and similar equipment. This heavy duty machine can reach as deep as 14 to 16 inches into the soil, depending on which unit is used and on the soil conditions. A large tractor is needed as a power source.

Either solid or hollow tines can be used, but solid tines are used most often and will reach deeper into the soil. Tine diameter for solid tines can vary from 1/2 to 1 inch. Hollow tines can be as long as 12 inches but seldom reach deeper than 8 inches. Diameters of hollow tines can be 3/4 to 1 inch.

Larger tines will give greater loosening of the soil. Tine spacing can be varied as well, depending on forward speed. The machine can be set to provide a "kicking" action as the tine is pulled out of the soil, which contributes to the loosening effect. This type of aerifier has been very effective in pen-

said. "I have seen guys drop flyers pushing \$20 aeration services no matter what size the lawn—not only will they not stay in business, but they ruin the price structure in the entire market."

Don't overlook potential markets for aerification services. Schreiner is used by Denver area maintenance contractors as a subcontractor. It's appealing to contractors because they don't have to maintain or purchase equipment and don't have the hassle of scheduling an aerification treatment with their own crews during the busy fall and spring.

Because he also provides a firm price, the contractor can bill his client and guarantee a profit. The firm is also doing golf course aerifying, a sector of business Schreiner expects to grow into the next decade.

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etrating through surface compaction or layers deeper in the soil.

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Built to get the job done faster, easier and better, every piece of Green Machine equipment is backed by one of the most ing profile. Nitrogen injections have proven very efficient as well. Injection of wetting agents permits placing the wetting agent through the hydrophobic layer at the surface to correct dry patch.

There is also the possibility of injecting certain pesticides, but it is important to be sure the pesticide is placed where the pest is active and not deeper into the profile where there might be the possibility of leaching or loss of efficacy.

AERIFICATION OPTIONS. A number of other cultivation tools can also be effective, such as spikers and slicers. Spikers provide many small holes with penetration to no more than 1/2 inch. Slicers give fewer holes but may reach to a depth of 4 inches or more.

These units provide little soil loosening but do open the surface to improve infiltration. They also may sever stolons and rhizomes, improving turf density.

Some specialty aerifiers have a high price tag which prevents purchase for many contractors. An alternative is to hire aerifying service companies to perform the task. Another is to jointly purchase a unit which can be shared.

Which cultivation tool is best for the job? It depends on the problems which need to be addressed. Cultivation may not be needed at all if one of the problems outlined above is not present, but this is a very rare occasion. Some sites may require intense treatment, while others will need a different program.

Typically, a combination of treatments will be necessary. A very intensive program may aerify two to three times per year using an aggressive unit like a water injector or vertical operating aerifier with small diameter tines, as needed during the summer months.

Evaluating a program's results becomes essential to determining the need for adjustments. If the problem is being corrected, the intensity of cultivation can be reduced. However, if there is little improvement, a more intense program will be needed. Where physical problems exist for the soil, aerification should be considered a routine practice until the problem is corrected.

Good turf management entails a total program. Using a proper cultivation program that deals with physical soil problems like compaction, thatch and layers will make the job easier to provide the desired high quality turf which has good stress tolerance.

The author is professor of turfgrass management, Crop and Soil Sciences, Michigan State University, East Lansing, Mich.



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USE READER SERVICE #41

Better educated contractors now micromanage their properties, using an integrated approach. The trend is toward a rational blend of materials and technologies.

By Bill Fair

The Green Industry Is



Lawn and landscape contractors are using more sophisticated fertilizer products for greater horticultural efficiency and economy. Credit: CoRoN Co.

AWN AND LANDSCAPE contracting is still quite young as an industry, but the trends we see today in fertilizer materials and formulations, pest control and application techniques are based more on a better understanding of the total ecosystem than on fads and fashion. As our awareness of the balance of nature increases, we see a trend toward "eco-consciousness," which will continue unabated into the next millenium.

We are also seeing greater efficiency, economy and practicality in our use of materials and methods. This means we are truly working smarter and not just harder.

Of course, customer preferences will largely decide the future direction of the lawn and landscape contracting industry, while customer satisfaction will determine its growth and profitability. Balancing perceptions with reality about fertilizers and other constituents of plant and soil health will require continued dedication to the trend of educating ourselves and educating the customer base.

Growing Up



LIQUID OR DRY. Historically, most homeowners who maintained their own properties used dry fertilizer products. This was due, in large measure, to the wider availability of such products to the consumer.

With the advent of professional lawn and landscape operations, more and more homeowners have opted to exchange a relatively small amount of discretionary income for the luxury of additional leisure time, coupled with the security of professional service. This transition brought with it a major shift in plant nutrition methods.

By and large, lawn care customers chose a service which differed in both quality and substance from what they could provide for themselves. Liquids were the answer. Professional applicators enjoyed the convenience, flexibility and accuracy of liquid fertilizers and control chemicals, while customers were favorably impressed with the "new" technology.

Bob Williamson, manager of Moyer & Son Lawn Care in Souderton, Pa., explained, "Fifteen years ago, customers clearly preferred liquid (applica-

tions). It was perceived as high tech and progressive."

Is there a clear preference today? Daryle Johnson, president of All American Turf Beauty Inc., Van Meter, Iowa, professed, "The customers don't care. Some have probably heard that one is better than the other." It is largely up to the discretion of the lawn service professional to determine which products are most appropriate in a given context.

That view is shared by Steve Hyland, president of Hyland Brothers Lawn Care in Ft. Collins, Colo. He said, "Most customers don't care (whether we use liquid or dry). Some companies

make an issue of it as a marketing tool, to try to sway customer opinion. Behind closed doors, people will tell you there is no difference in liquid vs. dry."

Dry products tend to dominate early season preemergent applications, while liquids get the upper hand on spring and fall broadleaf rounds. Dry fertilizers are popular for establishing roots on turf seedlings, but liquids get the nod for trees and shrubs with both deep root injections and foliar applications. Liquid and dry products split the market for most ornamental care and insect treatments. Dry fertilizers allow for somewhat higher analyses, while their liquid companions are generally conceded to offer greater flexibility and convenience. The truth is, we are reaching a balance on the supply side.

Overall, the once raging battle between liquid and dry proponents appears to be winding down and evolving into a more harmonious partnership, with liquid products being used where they fit best and dry products where they fit best. Williamson believes the dominant trend in the turf industry over the past five years has been the reaching of "an equilibrium in the use of liquid and dry."

Jeff Motter, purchasing manager for TruGreen/ChemLawn, Memphis, Tenn., confirmed this, pointing to the company's purchasing of 50 percent liquids and 50 percent dry products (on an annual dollar basis).

RELEASE PATTERNS. Variety is said to be the spice of life, and there is certainly no shortage of variety when it comes to the release patterns available among today's fertilizer products for lawn and landscape. The professional can choose from a range of products whose window of availability is as narrow as three to four weeks or as wide as 12 to 18 months.

Many controlled release nitrogen products are based on chemical and biological processes, rather than physical mechanisms for release. Some provide substantial amounts of organic carbon to the soil profile. This is especially true of liquid urea-formaldehyde products such as polymethylene urea solutions, short and medium chain dry urea-formaldehyde products, IBDU and CDU. This characteristic sets these products apart, producing an agronomic benefit over the multitude of coated urea products.

Urea is often coated with sulfur, wax, resins and polymers to delay the release of the urea nitrogen. Sulfur-coated urea can sometimes have release curves as short as straight urea, but its demand will likely remain strong due to low cost. Combination coatings generally provide better release characteristics, but you still have only urea nitrogen, which is readily volatilized into the atmosphere and leaches through the soil. Urea nitrogen also has been shown to reduce root mass on turfgrass.

The trend is toward increased use of almost all controlled release fertilizer products. Efficiency design makes these

(continued on page 52)







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fertilizer trends

(continued from page 49)

products a better nutrient value and aids in protecting the environment. Some of these products dramatically increase root mass, reduce leaching of nitrogen and lead to reduced clippings, while improving overall plant vigor.

An eight- to 12-week release curve works well for turf, where four to six applications per year are common. Longer release patterns may benefit trees and ornamentals. Review university studies comparing these products when selecting ones to suit your needs.

THE MENU. Chuck Darrah is president of the Ohio Lawn Care Association and owner of CLC Labs in Columbus, Ohio. He stated, "Fertility problems are about maximizing the return on your nitrogen dollar and lawns that respond to your program. If pH or phosphorus and potassium Today, the focus is on a more balanced feeding plan, including secondary nutrients (magnesium, calcium and sulfur) and a growing emphasis on micronutrients.

are down, then you will get poor response."

The most reliable way to assess fertility needs is through a soil test. More and more lawn service firms are selling soil testing as an add-on service for which they can charge \$25 to \$35. "It isn't just about agronomics," Darrah explained. "It's about customer service and retention. Homeowners have a high perceived value of soil testing."

To be sure, the days of a "meat and potatoes" diet for lawn and landscape plants is over. At one time, the standard menu for custom applications consisted almost exclusively of primary plant nutrients (NPK). Today, the focus is on a more balanced feeding plan, including secondary nutrients (magnesium, calcium and sulfur) and a growing emphasis on micronutrients. If your application

program does not provide for complete nutrition, you create limiting factors which adversely affect plant health.

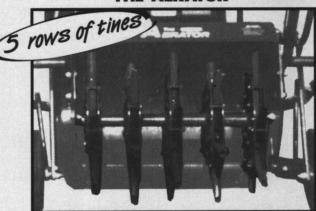
According to Andy Hines, vice president of the Athens, Ga., operation of Emerald Green Lawn Care, "We use more minors (nutrients) today. We run a soil test to determine need. As a general rule, we use micronutrients for turf if we do not get good response from our regular fertility program. In ornamentals, we use them on a fairly regular basis."

(continued on page 54)

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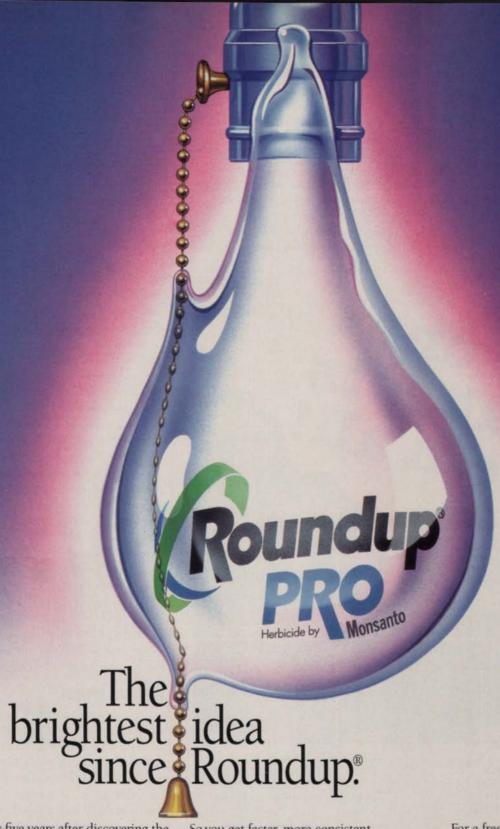
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(continued from page 52)

FAD THAT FIZZLED? At the beginning of the 1990s, predictions that organic fertilizers would soon dominate the industry were widely reported in the media. Fear of "chemical" fertilizers, brought on by overzealous environmental activism, led to a short-term hysteria among some journalists. The resulting "trend" of organic fertilizer programs for lawn care turned into one of those fads that fizzled before it caught on.

In the Northeast, Williamson ran a survey four or five years ago to determine customers' views on lawn care offerings. When asked if they would prefer an organic program if available, 80 percent responded that they wanted it or were interested. But, when the realities of cost and performance were brought into the equation, such a program could not be justified. Today, Moyer & Son promotes the fifth application as an "organically enhanced" feeding, using a high analysis bridge product made from urea and poultry manure.

Hines explained the fit for organic fertilizers in the green industry. "I think it would be a niche market. People want green lawns and will want them now. In our market, that precludes organics."

Inadequate performance, high prices and customer expectations are primary hindrances to the growth of organic fertilizer programs. The problem is compounded by the inherent low analyses of natural organic materials. "When you need two to three pounds of N on bermudagrass, you can't do it with organics," Hines noted. "Some companies are doing a great job of combining products, though."

There does appear to be a future for bridge products in the green industry, but in most regions of the country, less than one percent of the customer base is currently on even a partial organics program.

PESTICIDE OPTIONS. Of all the regulations affecting industry, those related to pesticide applications have the greatest impact on the bottom line. Posting signs and notifying neighbors about pending applications are obvious expenses. There are also the high costs associated with label registrations for new products and registration of current products for new uses.

In the last few years some terrific new products have come along to make life easier for lawn care professionals and their clients. New plant growth regulators, better crabgrass control products and powerful preemergent broadleaf herbicides all add to the applicator's arsenal, but at noticeably higher prices.

Lawn service firms today "are look-

(continued on page 97)



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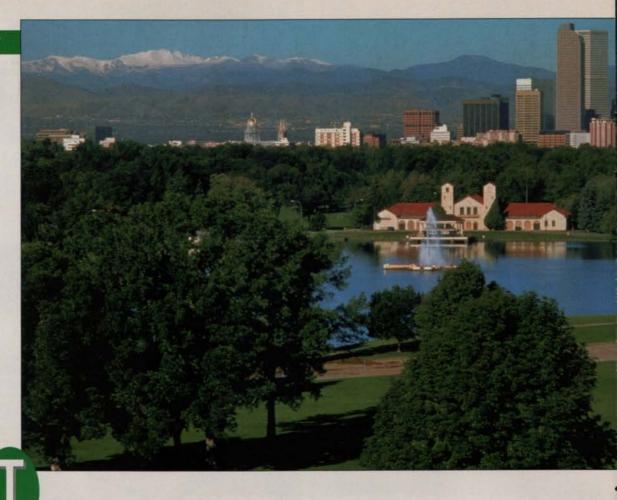




market report

Driven
by a new
technologybased economy,
Denver proves
there's life
after the oil
market
collapse.

by Paul Schrimpf & Bob West



WO DECADES AGO, the Denver metropolitan area lived and died on primarily one segment of its economy: petroleum products. Today, like other oil-dependent regions that bottomed out in the mid- to late 1980s, metro Denver has reinvented itself.

A new, more diverse service-based economy has evolved over the last decade, centered in technology and fast track industries like communication, computer software and financial services. "Right now, there's a technological climate to business here, with a lot of corporate head-quarters moving into the area," said Thad Napp, president of Napp Landscape Services, Longmont.

And residential building has enjoyed strong,

steady growth as opportunities for employment, combined with the aesthetic and environmental attractiveness of the region, have brought an influx of new residents from all over the country.

The result has been a generally more stable, less volatile economic picture for the region.

"There's a lot of work out there, especially for 1996 and 1997," said Joe Stroemel, landscape architect in the design/build division of Randall & Blake, Littleton. "It's more controlled growth out here now. We shouldn't have the bust cycle happening — a lot of people are (more careful) from the get-go, checking the inventory on homes and not just jumping in without the proper market forecasting."

Metro Denver Market:

Steady as She Goes

The petroleum industry has given way to more service-based companies, reinventing Denver's economy. Credit: Denver Metro Convention and Visitors Bureau

GEOGRAPHIC MIX. Economically, the region itself is defined as a six county area with Denver proper at its center.

Nearly 70 percent of the more than 2 million residents live in the three center-most counties — Denver, Arapahoe and Jefferson. Douglas County, which presently accounts for just 4.7 percent of metro Denver's population, was the country's fastest growing county last year, with an explosion of residential growth.

Denver and its surrounding market area is nestled snugly along the eastern foothills of the Rocky Mountains. When most people think about Denver, they think mountains and snow, but the region is actually an arid plain that averages only about 15 to 20 inches of rain per year. Without supplemental irrigation, little plant material would survive. In fact, the vast majority of the plant material in the metro Denver landscape is not native.

Another problem for landscape plants is the wide temperature fluctuations in the winter that pull ornamental trees and shrubs in and out of dormancy. According to Gary Smith, owner of American Design & Landscape, Parker, the average winter temperature of 50 degrees is deceiving. Temperatures can reach 60 to 70 degrees for periods of time, then quickly drop to freezing. "You get plants thinking it's spring, but then it goes right into sub-zero temperatures," he explained. "It makes the broadleaf plants very vulnerable to dehydration," and surprise cold snaps can cause newly establishing plants to go into shock.

For these reasons, said Eric Chris-

tensen, sales manager with Valley Crest Landscape, Parker, there are few suppliers and growers in Colorado to go to for plant material his customers demand. Valley Crest turns to suppliers in Tennessee, Washington, Idaho and Kansas for deciduous trees, while container stock is brought in as bare root and potted locally. They purchase evergreens from California. Smith said the majority of his plants are shipped in from the coasts.

JUST ADD WATER. In metro Denver, the odds are stacked against most plant material. The aforementioned lack of moisture and varying temperatures team up with an equally troubling nemesis — harsh clay soil.

For this reason, irrigation is big business for many professional contractors. "Today, it's unheard of for new homes to be built here without a new irrigation

system," said Smith. Industry estimates are that 60 percent to 65 percent of residences in metro Denver are equipped with an irrigation system, and irrigation systems are standard equipment for nearly every new home.

Given the proper level of irrigation, turf thrives in metro Denver. The lack of humidity throughout the year suppresses disease pressure, allowing turf to grow unabated. The turf of choice continues to be Kentucky bluegrass blends, which have proven to provide the best balance between water requirements, durability and appearance. Varieties such as turf-type tall fescue and buffalograss have been given some attention due to their somewhat lower water needs, but have not proven much better performers than bluegrass.

The prevalence of irrigation systems and finite water resources have forced local governments to place restrictions on watering the landscape. Many communities provide schedules that indicate exactly when properties are allowed to be irrigated.

"Water is the resource that defines this region — its availability and how it is used," explained Christensen. He said the industry in metro Denver needs to meet the demands of the government and the public in terms of water conservation and effective usage, or risk greater restrictions and loss of business.

"Expertise in irrigation is continuing to be an issue, with more complicated designs and computer-based control," explained Christensen. "The industry has fallen behind with the application of

(continued on page 00)

Metro Denver At A Glance

(Includes the city and six surrounding counties)

Ranking: 24th largest metro, area

Population: 2,085,336

Median Age: 33.3

Median Household Income: \$38,834 (1994)

Housing Price Average

Existing Single Family: \$116,800

New Single Family: \$143,300

Unemployment Rate: 3.9%

Corporate Profile: Largely service based — only one of the top 25 companies is centered on manufacturing. Top companies are mainly focused in the fields of computer software manufacturing and consulting, general contracting, financial services and communication.

Source: Denver Metro Chamber of Commerce

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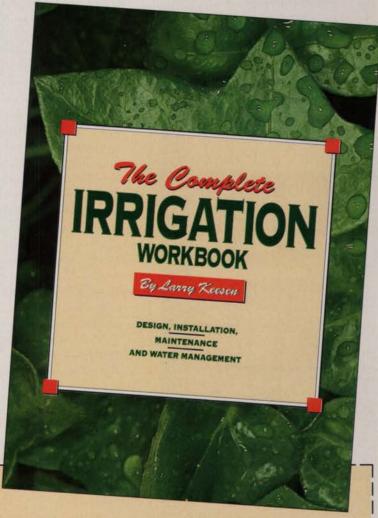
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market report

(continued from page 57)

this technology. Technicians are not up to speed in how to use the equipment efficiently," he added.

Larry Keesen, president of Keesen Water Management, Denver, agreed, but thinks the problem goes beyond the technician. In some cases, property managers are inheriting inferior systems that cannot provide a well managed irrigation program. They may flood irrigate because they don't know what else to do to keep the property looking good.

Another problem can be the uneducated property owner or homeowners' association, who may demand a lower quote on an irrigation system installation and receive a technologically inferior system. Sometimes, though, it's just an unsophisticated technician or system installer.

Along with irrigation, the arid conditions and clay soil have created another booming business — the sod farm. Turf grows well when irrigated in metro Denver, but new seed is very slow to establish. The majority of landscapers opt for sod when installing new lawns.

customers. Metro Denver is home to a unique mix of people from all parts of the country. Most have relocated for one of two reasons — to seek employment or to enjoy the unique Rocky Mountain environment. Napp said that this appreciation for the environment makes for more demanding, environmentally sensitive clients.

"They look at (caring) for their landscape as being friendly to the environment, and working with it," Napp noted.

"This is a pretty unique situation," agreed Smith, "with educated people who are pretty sophisticated customers. They know they will get their money back from a quality landscape job."

Tom Tolkacz, vice president of Swingle Tree & Landscape Care, Denver, has also found success dealing with the more sophisticated customer. The company's tree and ornamental care program takes a more diagnostic approach, which includes regularly checking for existing and potential problems and treating them as they come. He said that people in the area have been very receptive to this IPM-style approach.

Opportunities with commercial customers are generally with smaller clients, according to Tolkacz. "There is not an extensive amount of large corporate clients — it's mostly service sector companies in fields like cable and communications, who don't have major facilities. There's not a lot of large office parks or campuses, either."

One area of great potential is Denver's new airport, which is finally complete and running efficiently after overcoming a number of problems. Development is slow, but on its way.

GOMPETITION. According to The Adams Group, a market analysis and consulting firmspecializing in the Rocky Mountain region, metro Denver's population rose an average of 4,114 people per month from 1990 to 1994. And commercial construction in many areas is struggling to keep up with the increased need.

This might explain why contractors aren't making as much noise about an excess of competition in the market as other areas of the country. Some even say there's plenty of work to go around.

Smith said that when the economy was down in the late '80s, metro Denver lost a lot of the market's marginal players while the stable companies have benefitted from the turnaround.

Some companies are staying away from the bidding wars and doing work on mostly negotiated basis. "We try to negotiate most of our design/build work to avoid the bid process, so that means tightening our margins and sharpening our pencils," said Stroemel. "You've really got to know what you are doing."

The "instant landscapers" with wheelbarrow in hand are still out there, though, according to Drummond. He is fighting against what he terms "brutal" competition and the low prices and unscrupulous practices that make life harder for reputable landscapers.

(continued on page 62)

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USE READER SERVICE #83

(continued from page 60)

WORKFORCE WOES. With unemployment under 4 percent, metro Denver contractors feel the pinch when looking for quality employees.

"It's constantly getting harder to find local employees," said Napp. "Crews are more and more made up of legal aliens and we're forced to turn them into salaried employees to keep the quality help and turn the business into more of a year-long operation."

Christensen estimates that he could double his volume if he could find quality employees, but the company's efforts over the last four years to find more good employees have not had good results. He said that people have not found the landscape industry to be a career that meets their expectations.

Sally Wildy, general manager of Lawn

Industry estimates say that 60 percent to 65 percent of residences in metro Denver are equipped with an irrigation system.

Services, Denver, uses summer job seeking students to a small degree but relies on the Hispanic workforce to get through the long spring and summer hours.

REGULATORY PICTURE. Most contractors describe the level of regulation in Colorado as tough and getting tougher. Along with water use regulations, pesticide applicator licensing requires both classroom and on the job training before technicians are allowed to work alone, according to Tolkacz.

Chemical lawn care companies have the toughest time with a law Colorado has yet to pass - a preemption law. Posting and notification, while somewhat consistent, varies from across communities. Tolkacz noted. The state legislature is considering a

bill, but it had not passed by press time.

Another obstacle is Colorado's pesticide sensitivity registry. Citizens can call the state department of agriculture and have their names placed on this list, which is sent monthly to all licensed pesticide applicators.

If a customer lives adjacent to an individual on the registry, the company must call the registrant the day before the application takes place.

The authors are Managing Editor and Assistant Editor of Lawn & Landscape magazine, respectively.

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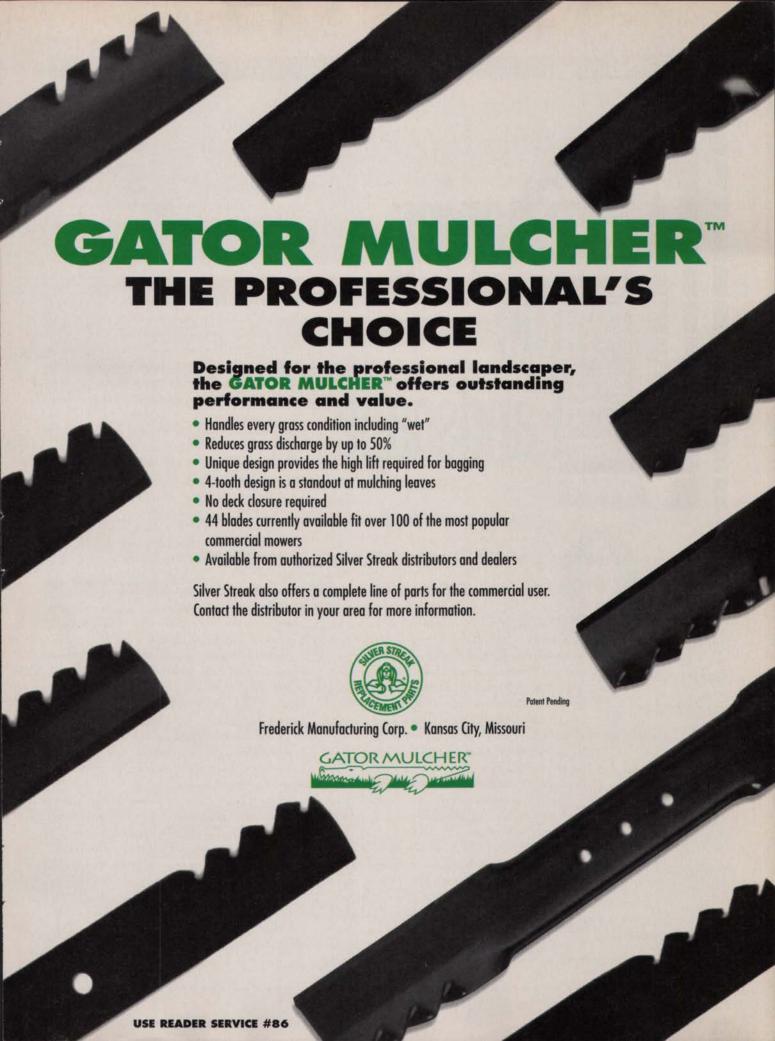
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Change is always coming and it's best to be prepared for the future by spotting trends that are shaping our society right now.

by Judith Guido

TREND is a line of general direction or movement; a line of development. Identifying and analyzing today's trends will help you predict the direction of the landscaping industry. Take a moment to look around. Have you noticed there are some common changes occurring across the nation? These changes, or trends, affect your business. If you ignore or fight them, they may leave you and your company in the dust (not a place a landscaping company wants to be unless, of course, it specializes in desertscapes).

The 10 prevailing trends that follow may seem obvious but should not be ignored, as they

do impact your business.

1. SELF: SOCIETY is the first trend. People and companies are relying less on the individual and more on teams, which allow for more than one mindset and competency. They offer options. Teams also provide a system of checks and balances. How does this affect our business? Internally, the landscaping industry has always relied on teams (crews) for performance. Exter-

nally, our customers are now making team decisions. No longer is it just the facility manager making a decision, but he or she is now joined by a member of purchasing, procurement and finance. Understand what make the members of the team tick! Companies are partnering, networking and outsourcing. This implies teamwork. Business wants to eliminate the "we" and "they" phenomenon between themselves and vendors and become the "us" generation.

2. MASS:CUSTOM is our next trend. Business is shifting from mass production to customization. The latest craze in marketing is called 1:1 marketing, meaning we should find out everything there is to know about our customer and provide products and services to fit those needs. Master planning is a prime example of customization. People want to spend more time at home in their customized spaces. They want their yard to reflect their interests and tastes. Listen closely to customers and create a profile on them so that you know all of their likes and dislikes. Then you can custom design.

3. DUMB:SMART is next on the list. This trend refers to technology and to our customers as well. This is the era of the "educated consumers." They ask a lot of questions, do research and compare notes. They demand professionalism, education and value. Don't waste their time. Smarter technology allows us to work faster and more professionally. Look at the new CAD programs, video capabilities for design and communication tools (beepers, mobile phones, pagers, hand-held radios, portable laptops and time clocks) we can now use in our business. Information downloaded from a portable chip the size of a dime can give you the daily information you need to run your company.

4. LOCAL:GLOBAL is one of the biggest trends impacting us today. The world has become a much smaller place in which to do business. We now have products, services, equipment and manpower available to us from all over the world. This also means we have outside competition. Our borders are open to our global neighbors. We already have landscape companies from outside the United States who have set up satellite offices here. The global community has its eyes



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business management

(continued from page 04)

on our pockets. They know our pockets are deep and they want a share of our income. We must constantly create new services and ways to differentiate our companies from our competitors. Your company is extremely vulnerable now more than ever!

5.TOP DOWN:BOTTOM UP is the new decisionmaking process in many businesses. Companies are eliminating the walls and are letting people at the bottom levels make their own decisions (empowerment). Decisions start at each level and work themselves up to the top level, where they eventually are put into the company's strategic plan and implemented.

This trend affects our internal customers (employees) as they are being empowered to make decisions on and off the field. If you're not empowering your employees, you are losing out on a plethora of brain power.

Even though our customers are making team decisions, each member generally has an equal vote, whether they are a facility manager, purchasing manager or financial analyst. It doesn't matter where they sit on a corporate ladder. Be equitable to each team member. Know and understand each member's agenda.

O.HARDWARE:SOFTWARE is our next trend. Hardware is passe and software is in! It's the brainpower that allows us to run our businesses more cost and time effectively. It allows us to use the most powerful tool we can lay our hands on — information. Software allows us to massage, sort, distort, twist and turn every bit of information we can grab. This information creates a niche, a market opportunity and a competitive advantage. Start collecting data

(if you haven't already) and use a good contact management program to analyze and control your data. Landscape services are already being sold over the Internet (particularly government jobs).

7.YOUNG:OLD refers to the "baby boomer" generation. This trend may cause a few of you to get nauseous, because we are getting older. This presents contractors new opportunities as baby boomers are less likely to spend time tending to their yards. They work hard and they want to sit back and relax at home. They also are money conscious as they are sending their kids off to college, so they demand value. If you can educate the baby boomer and show him or her the value of your products and services, you can create a very lucrative niche.

8. CONSUME: CONSERVE means a great opportunity. We have shifted from

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(continued on page 98)



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The blade cuts with astonishing ease. Long, to reach into tight areas; large, to slice easily through mature vines and branches; the blade is Radial Arc™ ground and clad with a tough, slick, three-layer

with a tough, slick, three-layer fluoropolymer that reduces friction to a bare minimum. This blade requires one-third less force than a conventional blade to make the same cut.

The blade is a separate component. Changing it takes one tool and one minute.

The forged hook is designed to draw the material being cut closer to the pivot. This maximizes leverage and minimizes

the effort required to make a cut. The hook's curvature is shallow enough to easily slip between dense, tangled branches and support wires. Yet it is deep enough to hold the branch securely as the cut is being made. The sap groove is deep and wide for improved self-cleaning.

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The square-shouldered, right-threaded pivot bolt that enables quick blade change is positioned so that the hook and blade open wide with a minimum of handle movement—in other words, with less effort. And the same coating that makes cutting so easy also self-lubricates the pivot action.

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If you try these loppers, we think

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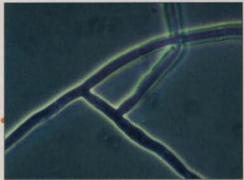
21-inch AL 6620 cuts limbs up to 11/2 inches thick.

WMINUM BYPASS LOPPER

Protecting

Tall Fescue From Brown Patr:h





Brown patch (magnified at left) produces lesions on tall fescue that are easily spotted (above). Credit: P. Vincelli

Careful fertilization, mowing and seeding practices can help reduce the growth of difficult brown patch on tall fescue grasses.

By Paul Vincelli

ROWN PATCH disease is a major limiting factor for maintenance of high quality tall fescue lawns in the Southeast. This common fungal disease attacks tall fescue during humid weather and warm temperatures (highs above 82 degrees Fahrenheit, lows above 60 F). Warm temperatures create stress, making it more susceptible to infection.

Brown patch, also called *Rhizoctonia* blight, causes leaf spotting, leaf blighting and even death of tall fescue tillers. The leaf spots are very characteristic: irregular spots that are olive green when fresh or tan when dried and are surrounded by a thin brown border. These lesions can be distinguished from stresses due to other causes, which often cause a yellowing and dieback beginning at leaf tip.

To diagnose, check dead leaves for evidence of old brown patch lesions which may have led to the death of the leaves. The thin brown border will still show the outline on an old lesion.

The disease develops in discrete patches ranging from 1/2 foot to four feet in size. However, obvious patches are not always evident in field outbreaks; sometimes diffuse areas of a lawn can be affected. We don't understand why distinct patches develop, but factors that play a role include the tall fescue variety, the strain of *Rhizoctonia* fungus active at the site and environmental conditions.

The disease is caused by infections from a variety of Rhizoctonia fungi prevalent in most soils. By far the most common of those that infect tall fescue is a particular strain called Rhizoctonia solani AG 1. Although less common, Rhizoctonia zeae is also worthy of mention because it does not respond the same to fungicides as does R. solani. R. zeae only attacks during very hot weather.

MANAGEMENT METHODS. No single practice will provide complete control of brown patch

(continued on page 70)



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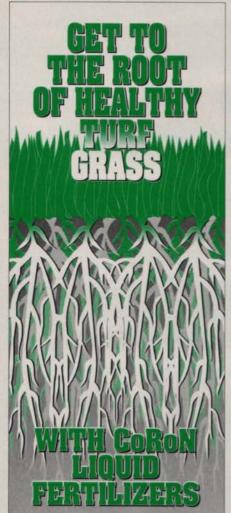
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USE READER SERVICE #50

brown patch

Effect of Spring/Summer Nitrogen Applications on Brown Patch of Tall Fescue

All treatments received maintenance applications of 1.5 pound N/1,000 square feet in October and December.

1994 RESULTS¹

N APPLIED DURING APR-AUG.	PERCENT BLIGHTING DUE TO BROWN PATCHA			
(POUND/1,000 SQ. FT.)	8 JULY 94	21 JULY 94	28 JULY 94	
0	2	5	3	
2	8	8	9	
4	12	12	16	

1995 RESULTS²

N APPLIED DURING APP	PERCENT BLIGHTING DUE TO BROWN PATCH				
(POUND/1,000 SQ. FT.)	21 JUNE 95	1 AUG. 95	14 AUG. 95	18 AUG. 95	25 AUG. 95
0	11a	16a	15a	17a	22a
2	17b	23b	25b	22ab	28ab
4	21c	26b	26b	25b	31b

Vincelli, P. and Powell, A.J. 1995, Biol, & Cult. Test for Control of Plant Dis. 10:42.

Figure 1.

(continued from page (18)

on tall fescue. For best control, try to integrate as many of the following practices as possible.

Fertility. Numerous studies conducted in different states provide us with a simple rule of thumb: brown patch of tall fescue increases with increasing levels of nitrogen fertility during the growing season (Fig. 1). Nitrogen fertility increases plant tissue succulence, making it more susceptible to infection. Apply all or most of the nitrogen during the autumn and early winter.

Mowing Practices. Research on the effects of mowing height on brown patch is somewhat mixed. In many instances, the disease is clearly worse under a high mowing height.

In these cases, shading and reduced air circulation in the turf canopy might lead to greater disease. The jungle-like environment of a high mowed turf may also favor leaf-to-leaf spread of the fungal filaments that start the infection. Field experience in Kentucky suggests that the combination of a high mowing height with high summertime fertility and frequent irrigation can lead to serious problems with brown patch.

Other research findings implicate low mowing height as more favorable for brown patch. Indeed, my own trials at the University of Kentucky have yielded conflicting results for mowing height from one year to the next (Fig. 2). Perhaps, under unusual environmental conditions, the stress of close mowing contributes to a breakdown of the limited natural resistance the plant possesses. Perhaps different Rhizoctonia strains are active in these different situations.

What we have learned from these conflicting results is this: Turf managers should not place an overriding emphasis on brown patch management when selecting a mowing height, since it can have an unpredictable effect on the disease. Choose a mowing height based

(continued on page 72)

² Vincelli, P. and Powell, A.J. 1996. Biol. & Cult. Test for Control of Plant Dis. 11:(in press)



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ProLine dealer for a demonstration. The Toro T-Bar. Steering that makes sense.

(continued from page 70)

on other considerations such as turf quality, moving frequency and weed control.

In most instances, returning clippings to the lawn does not significantly affect disease development. During an outbreak of brown patch in hot, humid weather, removing clippings can help eliminate a food base for the fungus and contribute to disease management. Keep the mower blade sharp. A dull blade shreds the leaves, creating an ideal site for infection.

VARIETY SELECTION. All tall fescue varieties currently available are susceptible to brown patch, and all will show symptoms during the outbreak. However, varieties do differ in their susceptibility. Some varieties are hypersusceptible (extraordinarily susceptible), such as

(continued on page 74)

Effect of Mowing Height on Brown Patch of Tall Fescue

1994 RESULTS³

N APPLIED DURING APR-AUG.	PERCENT BI	LIGHTING DUE TO BRO	WN PATCH
(MOW. HT./ INCHES)	8 JULY 94	21 JULY 94	28 JULY 94
0.75 - 1.0	3	3	2
2.5	7	8	8
4	13	16	21

1995 RESULTS⁴

N APPLIED DURING AP	R-AUG.	PERCENT BLIGHTING DUE TO BROWN PATCH						
(MOW. HT./ INCHES)	21 JUNE 95	1 AUG. 95	14 AUG. 95	18 AUG. 95	25 AUG 95			
0.75 - 1.0	8 a	21 a	25 a	24 b	32 b			
2.5	20 b	24 a	24 a	25 b	28 b			
4	21 b	20 a	18 a	17 a	21 a			

³ Vincelli, P. and Powell, A.J. 1995. Biol. & Cult. Test for Control of Plant Dis. 10:42

Figure 2.

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⁴ Vincelli, P. and Powell, A.J. 1995. Biol. & Cult. Test for Control of Plant Dis. 11:(in press).



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(no EPA est. MPG for this vehicle). Your mileage may vary. 2 We calculated resale using avg. trade-in values for '94-'95 full-size models vs. MSRPs, published in Jan. '95-Jan. '96 N.A.D.A.

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USE READER SERVICE #53

brown patch

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(continued from page 72)

certain dwarf tall fescue types. Others exhibit slight levels of partial resistance, in which disease development occurs but is slowed somewhat.

Many tall fescue varieties have been tested for brown patch resistance in recent years and there is a growing database on the reactions of these varieties to the disease.

All tall fescue varieties
currently available are
susceptible to brown patch,
and all will show symptoms
during the outbreak.

Unfortunately, varieties that exhibit adequate levels of partial resistance to brown patch in some tests have not performed as well in other tests. We don't know why there are inconsistencies.

What guidelines do the current tests provide? First, evaluate reports on varietal reactions to brown patch and avoid those that appear to be hypersusceptible.

Second, evaluate varietal reactions over a number of tests. Then, select varieties that appear to exhibit some partial resistance in a number of tests. A variety with a predictable reaction is probably more useful than the top performer in only one test.

Several breeding programs are actively seeking high levels of resistance to brown patch in tall fescue.

IRRIGATION. Irrigate in the morning. This washes off the dew, which is rich in nutrients favorable for growth of Rhizoctonia. Watering in the late afternoon or evening gives the fungus a long period of leaf wetness which can make a big difference in how much disease develops.

CULTURAL OPTIONS. Avoid using excessive seeding rates, as overcrowding can

(continued on page 76)

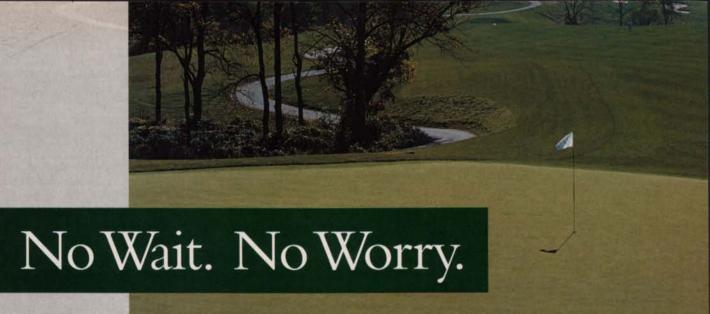


Photo courtesy of: Hartfeld International Golf Course

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aggravate an outbreak of brown patch. For new seedings, a rate of 5 to 6 pounds of seed per 1,000 square feet is best. Selectively prune trees and shrubs to increase air movement and light penetration and to allow leaf surfaces to dry

more quickly. Avoid applying herbicides during an active outbreak, as these may aggravate the disease.

USING FUNGICIDES. Contractors should use all applicable cultural practices for managing brown patch. Even if an out-

break of brown patch occurs, crowns and roots of established plants often survive and blighted turf begins to recover without fungicides when more favorable growing conditions occur. Fungicide applications may be attractive options in certain situations, such as where disease pressure is severe or aesthetic expectations for the turf are high.

New seedings of tall fescue are at greatest risk from brown patch. Fungicides can play an important role in assuring successful establishment during high disease pressure. After a spring seeding, immature plants can be killed by brown patch during hot, humid weather. Judicious fungicide use may help protect newly seeded lawns and prevent turf loss during the first season.

Under very high disease pressure, a fungicide spray may be needed during the first summer following a seeding made the previous autumn, especially if the lawn was sown in late autumn. Inspect newly seeded tall fescue regularly during hot, humid weather and be prepared to treat if necessary.

Although a number of fungicides provide acceptable results, few provide high levels of brown patch control in all published tests. Probably the most consistent active ingredient against brown patch based on our assessments has been chlorothalonil.

However, for greatest effectiveness, chlorothalonil must be applied frequently (every seven to 14 days) at relatively high application rates. R. zeae presents a further complication: several products effective against R. solani are ineffective agains R. zeae. While several fungicides exist for brown patch control, no single product is superior.

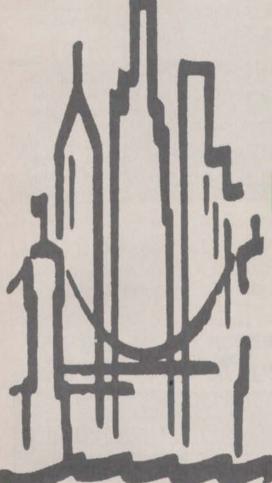
As a rule, contact fungicides are most effective against brown patch when applied as a foliar spray. Granular applications of contact fungicides do not provide the thorough leaf coverage needed for good disease control.

The author is associate extension professor at the University of Kentucky, Lexington, Ky.



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COMPOST MARKETING

TOP 10 BARRIERSTO USING COMPOST

COMPOST USE is still not "what it should be" for the average landscape contractor. Many landscapers have found compost to be one of the best products available for boosting native soil organic matter at a reasonable cost. The favorable economics associated with compost use have made this the number one market for many compost marketers.

As popular as it is, we wondered why many contractors do not yet use compost regularly. We found a number of surprising reasons and uncovered some glaring gaps in the compost

industry that need more work in the future.

1. Contractor size. Although many large landscape contractors can store compost, many smaller firms cannot. Getting compost becomes another variable that must be managed in the early morning hours and is often left out.

The wholesale pricing structure focuses on moving large material volumes over an entire season. New landscape firms normally do not purchase enough to qualify for maximum discounts and must pay a higher price, placing them at a disadvantage.

2. Availability. This is affected in two ways — by



having product that is easy to obtain geographically and by having a dependable supply. Convenient bulk material yards are of little value when sold out. There are areas in Contractors will use compost if it is affordable, available throughout the season and in a high quality form. Convenient locations also help.

the country where a good compost market has developed, but contractors don't use compost because they cannot depend on having the product when they need it most.

Compost supply locations are of prime importance. When outlet centers are not close to job sites or when delivery is not available, com-

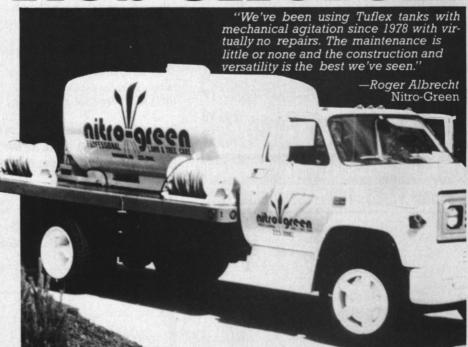
(continued on page 80)

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Tuflex offers you a full line of tanks to solve your pest control problems, big or small. The experts at Tuflex carefully research and analyze your needs and assist you in designing and engineering the right tank and pump system to your specific requirements. Anything less would be a compromise solution.

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The new extended warranty on Bob-Cat® Gear Drive, Variable Speed and Hydrostatic mowers is nothing short of ferocious. It's bold. It's aggressive. It's destined to raise industry standards. Take a look.

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- 2-year no-fail cutter spindle warranty—If a spindle or a component fails within 2 years of the original purchase, we will replace or repair it.

There are lots of rotary mowers out there with take-it-or-leave-it warranties. There is, however, one turf-hungry midsize with a warranty that roars:

Ransomes® Bob-Cat. Demo one today. Call 1-800-228-4444 for the name of the distributor nearest you.

Some restrictions apply to the no-crack deck, no-fail spindle warranty. See your Ransomes distributor for the details.



COMPOST MARKETING

(continued from page 78)

post use declines rapidly. Even if compost is available near the job site, but the act of purchasing the product takes too much time to accomplish, some contractors forego the experience.

Even though bags of compost are now available, most contractors still use bulk materials. It may often be easier to use bagged materials. For instance, planting a large number of street trees or a long line of shrubs could be coordinated by using one bag of compost per plant (depending on the plant's size).

3. Contractors are slow to change habits. While there are many benefits to using

compost in landscape projects, the industry itself is slow to change basic habits.

Compost marketers find that building a market for their product normally takes about two to three years, until they can meet their potential customers. A committed contractor who uses compost on a regular basis may still purchase other organic materials out of convenience.

4. Lack of knowledge of soil preparation and compost use. The trend during the last 20 years seems to have focused on fertilization, watering and soil preparation. The current trend focuses on soil preparation, watering and fertilization, in that

order. This has caused some confusion. Soil labs and extension agents have always recommended beginning projects with a soil test, but few contractors actually conduct soil tests.

Perhaps 80 percent of plant problems arise from improper transplanting or poor soil preparation, so using compost on common landscape installations should become more accepted. We must offer more educational programs focusing on how to use compost, which could be held in conjunction with programs from fertilizer companies and extension services.

5. Conflicting information.

Does immature compost rob

nitrogen? What happens if you add a little fertilizer? Does compost really prevent disease? Answers to these questions differ in content, even among experts. Landscape contractors have become confused by some of the answers. Many still use compost exclusively for its organic matter value and do not count on other benefits.

Successful compost marketers have built small, local coalitions where all the parties are well informed about what research has been performed, what the results mean and how quality compost products can be used.

6. Economics. Compost is not a direct substitute for

(continued on page 82)



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COMPOST MARKETING

(continued from page 80)

topsoil but it can make it more effective. It can replace peat moss but must be used at a dif-

ferent rate.

A contractor cannot know what economics to expect. Since compost is about the same price as soil or mulch, it helps contractors make more money without sacrificing plant performance.

7. Few sample specifications.

Most states have updated their construction guidelines for large projects, but still do not cover compost. Many do not list it as an acceptable organic amendment. In the hectic bidding

When (compost)

not close to job

sites or when

delivery is not

use declines

rapidly.

available, compost

outlet centers are

process, few firms have time to research "acceptable alternates" and take the risk of allowing an alternate bid to be the only one submitted.

Most bidding processes give little time before closing.

"only so exciting." Perhaps this item is more at the root of the problem (excuse the pun). Compost is a commodity and is viewed like other low priced products. Most contractors do not realize the true value that compost gives them — the performance of plants brings value, not the compost product itself.

9. Objections to odor and ingredients. Some contractors get over their initial concern with products like biosolids (sludge) composts, but others refuse to use them. Many contractors object to the odor or to the thought of using materials derived from this feedstock. They cannot sell their customers on it.

Most biosolids products are agronomically superior

compared to composts derived from yard waste.

10. Poor performance.
There have been some failures, but this is the least of contractors' worries. They worry about contamination of compost with weed seeds that flourish after a landscape installation. But new weed seeds can come from other sources like storage piles, where compost catches weed seed drift from wind-borne seed or from birds moving seed around. — Rod Tuler

The author is a Certified Professional Agronomist and freelance writer residing in Medina, Ohio. He is employed by BFI in Oberlin, Ohio.



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Ferromec and Bov-A-Mura have been key players on my team at every Super Bowl since they were introduced," says George Toma, the Kansas City sports turf legend.

Called "B-A-M" by the NFL grounds crew, Bov-A-Mura is always the first thing put down on the Super Bowl field. This is true whether the field is sodded over B-A-M-sprayed soil or overseeded with B-A-M used in the pregermination water.

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"We've never found anything that produces deeper, stronger roots, nor

such fast, abundant tillering," explains Toma, who has been responsible for preparing all 30 Super Bowl playing fields.

Ferromec Liquid Iron has

also been a major player at the Super Bowl, with 3 or more light applications applied during the 4 to 5 weeks that George and his son Chip are in charge of field. "It helps us fine-tune the turf color in just a few hours," says Chip Toma.

Boosts color, not topgrowth

The Tomas have found that just 2 or 3 ounces per thousand square feet can give the turf color a boost without discoloring the field markings — and without boosting topgrowth.

The Tomas take Bov-A-Mura abroad to help work their magic on more than a dozen other

stadium and practice fields used for the Pro Bowl and NFL exhibition games around the world. "We never leave home without it!," chuckles Chip. "Ditto for Ferromec Liquid Iron!"

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PRODUCT PROF

HARDSCAPE CURVES, TWISTS ANDTURNS

ONE WAY landscape contractors can expand their services is to offer creative hardscapes to their customers. Start-up costs for these types of projects are minimal because most equipment can be rented.

Brian Rice, an owner of Pavers Inc., a paver installer in Brownsburg, Ind., attests to this. He experienced tremendous growth since he began installing creative hardscapes seven years ago. Originally, Pavers installed traditional straight line sidewalks, driveways and patios. When

customers requested more creative designs, the company responded by creating dry-laid hardscape elements in curves, twists and circles.

As Pavers took on more creative projects, Rice realized that traditional installation methods made it difficult to meet customers' expecta-

tions. The most troublesome problem was keeping paver surfaces flat and even and the design in place. The introduction of paver restraints to the process help-



ed the situation, keeping pavers, bricks and other stones from mounding up in the middle, spreading or moving out of place. Unfortunately, using restraint did

Rigid black vinyl paver restraints can be formed into curves to accommodate creative landscapes, while keeping pavers in place through the seasons. Here, they keep rocks and mulch in place. Credit: Oly-Ola Sales.

not always solve this problem. "Even in straight line projects, we had situations where the restraints were not performing up to standard and causing all sorts of problems," Rice noted.

Pavers needed a reliable paver restraint that could be easily maneuvered to follow the contour of a hardscape, vet had the strength necessary to keep it in place.

Rice experimented with a variety of restraints, including those made of every-

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PRODUCT PROFILE

thing from aluminum to steel to soft polyethylene to hard plastic. Each has its virtues in certain applications. For example, steel edgings are frequently used in driveway installations because they have the strength necessary to support the weight of cars. It is difficult, however, to make a circle out of a steel restraint, and steel frost-heaves every spring, jeopardizing the design.

The nature of other restraints also makes it laborious to adapt them into creative designs. While soft polyethylene is easy to shape, it does not offer the necessary strength and can be too pliable for the purpose. Hard plastic is

more rigid but cannot be cut and formed easily. Although some restraints provide strength, most are not flexible enough.

Restraints made of harder materials must be cut

'From an aesthetic point of view, this restraint does not compete with hardscape designs because it has a low profile.'

> into smaller pieces and strung together like beads into a curve. Flexible paver restraints have to be snipped

at regular intervals to bend. For instance, a job calling for 200 feet of curved paver restraint means making little snips every six inches. This is time consuming and costly work.

The cost of these jobs was higher because of the time, labor and materials involved. If the restraint was bent incorrectly, it was difficult to bend back and often had to be discarded.

In his search process, Rice came across an Lshaped vinyl restraint product at a trade show. "I noticed a product called Bric-Edg, made by Oly-Ola Sales Inc. in Villa Park, Ill.," he explained.

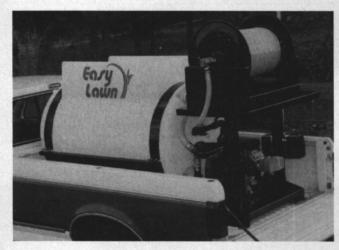
"There are a lot of advantages to this product," he

added. "It is constructed of rigid black vinyl and has V-cuts precut into it. These factors give us the flexibility we need. We can even install curves measuring up to three feet in radius. From an aesthetic view, the restraint does not compete with hardscape designs because it has a low profile."

Most important, precut restraints saved time and labor and made installation simple. "If we need to do any cutting, we just use our tin snips," said Rice. "It's hard to believe how much easier it is to put in curves. Before, everything went smoothly until we got to the part of installing the restraint — everyone dreaded this step."



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into the tree as chemicals are injected through a 1/16-inch slit in the wood. The Wedgle places chemicals in the most active layer of the wood and can be used at comfortable working heights.

Circle 125 on reader service card



Oly-Ola Sales' Bric-Edg, an L-shaped paver restraint constructed of rigid black vinyl, is now available in flexible sections containing V-shaped cuts to form curves in brick and paving projects. Bric-Edg

can be bent into curves measuring three feet in radius and there is no need to cut or string pieces together. Steel anchoring stakes secure the restraint from moving once positioned.

Circle 126 on reader service card

Snapper introduces a line of six Pro Hydro™ mid-size walk-behind mowers with power ranging from a 14-hp



OHV Kawasaki engine in 36-inch deck models to an 18-hp OHV V-twin Briggs & Stratton engine, which has an electric starter powering a 61-inch deck. Other models offer 48- and 52-inch cutting decks. Standard features on each mower are a field-serviceable spindle assembly with an overflow grease vent and a full floating deck designed for productivity.

Circle 127 on reader service card

(continued on page 88)

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ASSOCIATED LANDSCAPE CONTRACTORS OF AMERICA

(continued from page 86)

The S24CB1 walk-behind mower from Yazoo includes the Vari-Mulch* system which allows operators to control the rate at which clippings are returned to the lawn. It offers a 24-inch cutting width, 3-speed gear drive transmission, side discharge convertibility and a 5.5-hp engine. Other features are simultaneous 4wheel mowing height adjustment and semipneumatic 16-inch rear wheels. Circle 128 on reader service card

Ransomes America's Bobcat hydrostatic walk-behind mower offers increased maneuverability with fingertip levers providing independent control to each wheel.

LITERATURE

Mohawk Industries' 88-page catalog highlights a wide selection of commercial landscape parts and supplies, including mower blades and components, truck bed extenders, safety clothing, sprayers, hand tools and pruners. Gas cans, landscape fabrics, lubricants and shop assortments also are listed.

Circle 129 on reader service card

Vista Professional Outdoor Lighting published a technical reference binder presenting its low-voltage landscape lighting fixtures, installation tips and technical specifications. The full-color catalog contains individual specification sheets on all Vista products and is available free from the company.

Circle 130 on reader service card

The 1996 Crop and Turf Management Supply Catalog from **Gempler's** features a complete line of insect monitoring traps and supplies, weather stations, sampling tools and diagnostic equipment. Also included are instructive articles and descriptions of products for initiating integrated pest management programs. The catalog is available free from Gemplers.

Circle 131 on reader service card

"THE TOUGH ONES"



TA-19 Turf Aerator

- One-piece, 3/16" plate frame.
- · Removable 50 lb. weight bar.
- · Protection guard to keep cores away from chain.
- 4.0 H.P. Honda OHV engine.
- · User friendly controls
- 3/4" heat treated tines.
- Front wheel posi-traction drive.
- Fits through a 30" gate.

TA-26 Turf Aerator (Not Shown)

- · Larger, more stable on sloped areas.
- Gives 40% more production than the TA-19 aerator.
- Fits through a 36" gate.

SC-18 Sod Cutter

- Polyurethane vulcanized drive wheels.
 Prive and blade controls on main base.
- Drive and blade controls on main handle
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- 5.5 H.P. Honda OHV engine with centrifugal clutch.
 Twist grip throttle that will automatically go to
- idle and stop machine movement when released.
- Roller, ball, and bronze bearings on all friction points.
- · Easy load/unload trailer available.

TR-20 Turf Rake (Not Shown)

- 5.5 H.P. Honda or 5.0 H.P. Briggs engines.
- · 20" detaching width.
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The mower features dual transmission pumps and Ross wheel motors and is designed to cut more than 24 acres in eight hours. Available engines range



from a 14-hp single cylinder Kohler to a 20-hp V-twin Kohler with electric start. The hydrostatic drive adapts to 36-, 48-, 54- and 61-inch decks and offers zero-turning radius.

Circle 132 on reader service card

The Coyote C8 hydrostatic wheel loader offers a 3,500-pound fork lift capacity with standard third function hydraulics and a heated cab. The unit is less than 6 feet wide and just 8 feet 5 inches tall to fit in many small working areas. Circle 133 on reader service card

C.A.P. Inc. has a new line of

Redball Hooded Spray Booms for turf applications in windy conditions. The booms feature 20-inch nozzle spacing, breakaway boom hinges, an adjustable boom height and an



easy folding wing. The spray hoods are made of high impact poly and also include nozzle access ports and wind curtains.

Circle 135 on reader service card

Husqvarna developed a new line of eight high power, low vibration trimmers, including five 25-cc models, two 31-cc models and one 36-cc model. The standard LowVib™ antivibration system isolates the handles

York Rakes' Model YBWB3 rotary broom is a self-propelled, 2-wheel drive walk-behind broom designed to clear snow, leaves, debris and thatch. The broom is powered by a 5-hp Briggs & Stratton engine driving dual belts and a gear-type axle. The 3-foot wide brush can be angled left or right for windrowing and is made of flat replaceable wafers and spacers. Operator levers control the ground drive and brush drive separately while caster wheels establish the brush height.

Circle 134 on reader service card

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and support components from the engine and drive shaft with rubber dampers. Each new trimmer also includes an angled handle to



align the cutting head directly in front of the user for less stress on the user's back. Other features include a 35-degree cutting angle, foldable bike, loop and J-handles and an electronic ignition system.

Circle 136 on reader service card

Riverside Phenoxy 088 from Terra International controls tough weeds in ornamental turfgrass and turfgrass grown for seed. The active 2,4-D acid formulation is said to be more effective than 2,4-D amine alone when fighting bindweed, chickweed, cocklebur and many other broadleaf weeds. The product is available in 2 1/2- and 30-gallon containers.

Circle 137 on reader service card

The Pellent P2000 electronic pruner is powered by a 24-volt, direct current battery in a belt pack for easier cutting capabilities up to 1 3/16-inches thick. The pressure-sensitive trigger provides varying cutting blade speeds while the pure cuts make for healthier trees with quicker recovery time. A fully charged bat-



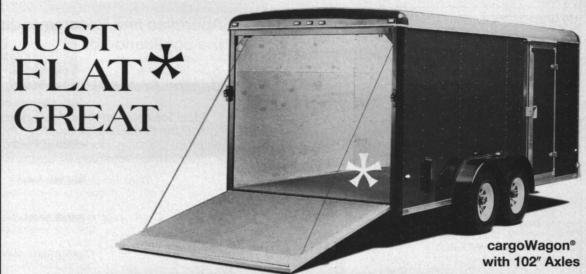
tery makes nearly 9,000 cuts and takes just one hour to recharge.

Circle 138 on reader service card

The Model 30N hazardous materials storage locker from **Safety Storage** secures chemical drums and other potentially hazardous materials. The prefabricated, relocatable steel locker is 32 feet long and 7 feet deep and holds up to 45 55-gallon drums.

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Circle 139 on reader service card

Erosion Works 1.0 software from American Excelsion assists with the erosion control selection process for both slope and channel applications. Analytical features for slope applications allow users to evaluate various techniques and products to reduce soil loss from rainfall. For channel applications the Windows*-based software simulates different flow conditions and geometries and projects results with different erosion control products in place. Circle 140 on reader service card



The Out-Claw backhoe from Northern **Hydraulics**

mounts on half-ton or larger pickup trucks and

uses a 12-inch-wide bucket to reach as far as 8 1/2 feet and dig as deep as 6 feet. The unit has a 3,500-pound breakout force and can reach up 5 1/2 feet for dumping into another container. An 11-hp Honda OHV engine powers the backhoe with a 6-gpm Barnes pump operating at 2,000 psi. Circle 141 on reader service card

Toro Proline mid-size walk mowers feature the T-bar™ speed and steering control system allowing operators to control the mower without removing their hands from the bar. New wear

Acclaim Extra, an improved version of AgrEvo's Acclaim postemergence herbicide, increases the effectiveness of the active ingredient to allow for lower application rates. It controls crabgrass, goosegrass and other annual and perennial grassy weeds in turf and ornamentals and now covers 14 percent more area than the previous product formulation.

Circle 142 on reader service card

plates are found on the 44- and 52inch recycler decks for less impact damage. Other available decks range from 32 to 62 inches and adjust from 2- to 5-inch cutting heights. The mowers house 12.5- to 20-hp engines for maximum speeds up to 6 mph.

Circle 143 on reader service card

The Whalen line of lawn rollers is designed to be pushed by hand or pulled behind a tractor to level various terrain surfaces. Four different models are constructed of heavy gauge steel and range in width from 24 to 48 inches with weight loads between 185 and 910 pounds. A standard pin hitch accommodates most tractors and utility vehicles.

Circle 144 on reader service card

The BP40 backpack cutting system from Jonsered Power Products features a 36-cc engine mounted on a padded, vibration-isolated backpack frame and

weighs less than 16 pounds.

A 2-piece shaft allows for easy attachment of cutting accessories including a string trimmer head, an



edger unit, a hedge trimmer and a grass/weed blade.

Circle 145 on reader service card

ImpleMax Equipment's 4836SKS skid-steer grapple provides operators clear visibility while handling trees, brush, logs, stumps and bushes in its steel tongs which open to 4 feet by 3 feet wide. The grapple weighs just 470 pounds and attaches to a front end loader with the standard hydraulic circuits inside most skid steers providing control for the tongs.

Circle 146 on reader service card

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Navisson Golf distributes Isolite Porous Ceramics, nontoxic ceramic granules which are 70 percent porous and made from diatomaceous earth to retain air, water and nutrients vital to healthy plant growth. The inert, kiln-fired granules won't break down or migrate in the soil and will not affect soil chemistry. They can be applied mixed with backfill materials, rototilled or injected into soil or laid around plants in a soil mix. Circle 147 on reader service card

The Space Cap from Reading offers increased compartment height and easy access



to storage shelves for weatherproof protection of tools and materials. The 2-sided, zinc-coated A-60 paintready galvanized steel resists rust and corrosion.

Other standard features include a flange mounted automotive rubber door seal protecting tools and materials from moisture and slam

action rivets on locks to keep doors secure. Circle 149 on reader service card

Henderson Mfg. offers the Mark Three dump body for class 3 and 4 trucks. The Mark Three features a unibody design, construction without cross members, 1-piece seamless floor and sloped, dirt shedding side rails. A trunnion mounted telescopic hoist provides increased lifting power and a shorter cycle time than in previous models. Also available is a drop-down side option for convenient access and easy unloading. Circle 150 on reader service card

The Tiger Dump from Tiger Line Equipment incorporates a pivot design in the dumping mechanism for easier dumping. The hopper is constructed of 12-gauge steel riding on floatation tires. The tailgate opens from both the top and bottom for dumping or spreading from the 3-cubic-yard capacity. Circle 151 on reader service card

The Mantis Tiller/Cultivator for tight spaces weighs just 20 pounds and is powered by a 2-cycle engine featur-

John Deere's 540 loader features mechanical selfleveling and an increased load capacity for increased versatility. The loader fits Deere's 5000 Series tractors and includes factory installed



rollback links, a stronger boom and improved lift height. Hydrostatic steering power is provided by 3-cylinder diesel engines with between 40- and 60-hp.

Circle 148 on reader service card

Lawn&Landscane

SEPUNG THE SEE RELEON PROFESSIONAL LANGSCAPE CONTRACTING INDUSTRY		
Name		
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Phone #		
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2. What is your primary business at this location? (please check one) CONTRACTOR or SERVICES: Landscape Contractor (maintenance & installation) Chemical Lawn Care Company (excluding mowing maintenance service) Lawn Maintenance Contractor Ornamental Shrub & Tree Service Irrigation Contractor Landscape Architect Other Contract Services (please describe):	OTHERS ALLIED TO Extension Age Regulatory Agent School, Colled Trade Association Others (pleas: 3. What were revenues? 0 0 -\$50,000 \$50,001 - \$100,001 - \$100,001 - \$250,001 - \$100,001	nt (Federal, State, cy) le, University tion, Library e describe):
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□ 1. Landscape Contractor (maintenance & installation)

□ 2. Chemical Lawn Care Company (excluding mowing maintenance

☐ 3. Lawn Maintenance Contractor ☐ 4. Ornamental Shrub & Tree Service

☐ 5. Irrigation Contractor

☐ 6. Landscape Architect ☐ 7. Other Contract Services (please describe)

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☐ 3. Trade Association, Library

4. Others (please describe)

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☐ Agronomist, Horticulturist

☐ Entomologist, Plant Pathologist ☐ Serviceman, Techincian

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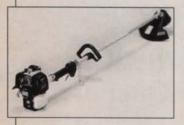
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ing electronic ignition. The tines spin at 240 rpm and cover a 9-inch-wide path. Optional attachments include a border edger, a furrower, a crevice cleaner, a lawn aerator and a lawn dethatcher.

Circle 152 on reader service card

The SRM-3100 trimmer/brushcutter from **Echo** is driven by a 30.5-cc, dual piston ring engine with electronic start for 11 percent more horsepower and 35 percent more torque than earlier models. A trimmer head holding 50 feet of .105 diameter trimmer line and the 27.1-ounce fuel tank provide increased pro-



ductivity while a low tone muffler reduces operating noise. A steel shaft option is available with the SRM-3100S model.

Circle 153 on reader service card

Lofts Seed introduces Azure, its first improved variety of sheep fescue featuring a deep blue color which is said to actually intensify under heat and drought stress. Azure is designed to perform under low maintenance conditions such as roadsides and native grass stands and maintains sheep fescue's high tolerance of infertile conditions.

Circle 154 on reader service card

The TMF-55 from Sellick Equipment Limited is a truck-mounted forklift that loads and unloads on the back of a truck or trailer in one minute to reduce on-site turnaround time and save valuable cargo space.

Circle 155 on reader service card

The Turbohydrozone line of ozone generators manufactured by ROF 03 Systems reduces or eliminates bacteria, algae, chemical oxygen demand, bacteria oxygen demand, color and pesticides in ponds, lakes and fountains. The unit works on a 110V standard electrical outlet and the ozone generator is housed with ultraviolet protected PVC and aluminum.

Circle 156 on reader service card

Jacobsen added three more powerful engines to the Turfcat" out-front rotary mower with the Kubota 23and 28-hp diesels and the 45-hp Ford gas engine. Models feature 2- and 4wheel drive. Low range mowing speeds are increased to 6 mph and a new ergonomic design includes all gauges located up front, along with foot pedal operation for mowing and transport. All mower models feature hydraulic deck



drive and dual-range transaxle to meet tough mowing conditions.

Circle 157 on reader service card

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(continued from page 32)

munity. They don't spend on upgrades but will spend on basic maintenance.

• How do keep your customers? A. I hate to admit it but we've allowed our competition to happen through our oversights. We're serious about providing good customer service, as well as the reverse, which is getting customers back. We compensate our employees for retaining customers based on the previous year's retention.

The challenge is to make sure we're a quality provider and the customers get the best value. We have about a 70 percent retention rate, but we only count customers if they buy full service programs for the season, because they're the ones that make the money.

Q. What do customers want in terms of service?

A. In the old days, you could differen-

tiate our company from the others based on our professional appearance and nice looking advertising pieces. Now, I think being competitive depends more on hiring quality people.

Just about everyone can make a lawn green, but quality is really defined in the customers' eyes. They want value and the perception that they are getting more than they paid for. We will add something extra on a lawn care job like spraying the driveway for weeds. It's a valueadded service.

Q. How else can you reach customers in your competitive markets?

A. We stress communication. We use every gimmick that works, but we also make sure to leave a written note, talk to the customer in person and survey them by telephone for specific feedback on how to operate better. Our customers tell us exactly what they want from us -

be there on time, tell them when we're going to be there, tell them what we did on the property.

O. What's your biggest challenge? A. As things become more competitive, we have to make a profit. Today's consumers want more for less. They're always pressuring for better services from better people at a good value.

We want to expand but still have to find more customers and retain the ones we have. We try to get the customers that buy one treatment to buy more.

Senske Lawn & Tree Care is located at 3030 W. Clearwater, Suite 100, Kennewick, WA 99336. Telephone is 509/736-0754. E-mail: 75230.2226-@compuserve.com.

The author is Editor of Lawn & Landscape magazine.

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(continued from page 54)

ing for products that work better, using less active ingredients," according to Motter. Herbicides, fungicides, PGRs and insecticides for top feeders all work better in conjunction with sticker/spreader/carrier agents, which enhance coverage and efficacy (often at lower active rates).

Above all, new strategies are required to maintain top quality properties while staying ahead of environmental initiatives. Many contractors say the new products are just too expensive to use. "But cheap doesn't mean good," Hines noted. "Customers will pay for the best value, high quality products. And if we don't work with industry and use these new tools, the industry won't provide us new tools."

CUSTOMER EDUCATION. Contractors are increasing their annual outlay for educating their customers on fertilizers,

pesticides and plant health. After more than five years of this trend, the reviews coming in are a bit mixed.

The industry appears to be allaying customers' fears about the "chemicals" applied to their properties. But many professionals feel that today's customer is no better informed about soil and plant health options than five years ago.

One explanation for this is that property owners are more motivated to learn about titillating issues highlighted in the media. They do not really want agronomy lessons; just green grass, no weeds, no hassles and a reasonable cost.

THE FUTURE. Expect to see more government restrictions on lawn and landscape service operations. Hyland predicted, "There will be increased regulation of fertilizer applications and storage. We will be under increasing scrutiny for

groundwater, etc., as with pesticides."

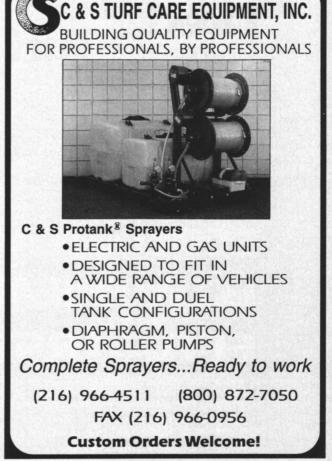
Darrah concurred with this assessment. "In several states (Maryland and Virginia), they already have nutrient management plans (voluntary for lawn care) which restrict the times of year one can apply nutrients (N & P) and the amounts that can be used. Sensitive ground and surface water issues will impose more restrictions on lawn care."

Asked if we would see more controlled release nitrogen products used throughout industry, he added, "Yes, if we follow what has come about in Maryland and Virginia."

Other states are considering nutrient management legislation and a number of communities already have restrictions in place.

The author is technical director of CoRoN Corp., Souderton, Pa.

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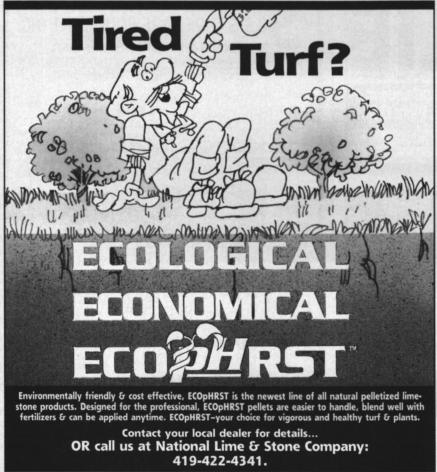


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Back Guarentee!





business management

(continued from page 66)

a nation of overconsumption and decadence to one of conservation and environmentalism. Waste not, want not! Composting, organic gardening, rock gardens and waterscapes have given us the chance to create naturalistic environments for our customers. Plants are being touted as "clean air machines." Design a usable, environmentally friendly landscape and you've become an environmentally friendly company with which to do business!

9. BIG:SMALL relates to the downsizing of America. Companies are getting
smaller by outsourcing their services.
They are going back to their core businesses and hiring outside companies.
Landscaping services are among the first
services to be outsourced. Let a potential customer know the benefits of
outsourcing (cost and time savings, educated staff, reduced liability and inventory and overall asset enhancement) and
you've established yourself as an

outsourcing specialist.

10. SLOW:FAST is last but not least. We've been told it's got to be done faster and less expensively. New products like high speed mowers; small, versatile standup digger/haulers; and new land-scape application materials and formulations are allowing us to work faster than ever. If you haven't been to an association conference lately, it's worth the trip. The convention floor is full of the latest and greatest gadgets to make us work faster and smarter. Computer technology plays a big part in the "speed" movement. Often, the first company to the finish line is the winner.

Learn to spot trends. If you don't have 20/20 vision, read a trade journal. Once you've identified trends, analyze them and see how you can apply them to your business. Remember, if you're not keeping track of trends, your competitors probably are!

The author is a partner in Grass Roots Marketing and the director of business development and marketing for Laflamme Services, Bridgeport, Conn.

EQUIPMENT FOCUS

(continued from page 22)

Method 1. Step 1. Measure and mark off an area equal to 1,000 sq. ft. (such as 20 feet x 50 feet).

Step 2. Add a measured amount of water to the tank, spray the area and then measure the amount of water still in the tank. The difference between the amount in the tank before and after is the amount used per 1,000 sq. ft.

Step 3. Compare the measured rate with the recommended rate and make the necessary recalibrations.

Method 2. Another method is to record the time required to spray 1,000 sq. ft. and later catch and measure the spray from the nozzle for the same time period.

The flow rate of nozzles, especially those made of brass, increases as they become worn. Therefore, calibrate your sprayer as often as possible. When spraying, hold the nozzle at a constant height or swing it in a sweeping motion, and maintain a steady walking pace to keep the application uniform.

Here are some additional hints for a more uniform application with manual sprayers:

• Tie a weighted cord or chain to the wand near the nozzle to serve as a height gauge to maintain a set distance from the nozzle to the turf.

 Walk a known space until you can consistently spray this area with the correct amount of material. A ticking watch or timer will improve your pacing.

• For hand pump sprayers, attach a pressure gauge to the spray wand and check how quickly the pressure drops during an application. Count the number of seconds needed for the pressure to drop 10 psi and the number of pumps needed to return the pressure to the proper level.

• For backpack sprayers, attach a gauge to the spray wand and determine how fast you need to pump to keep the gauge pressure constant while spraying.

— H. Erdal Ozkan

The author is professor of agricultural engineering at The Ohio State University, Columbus, Ohio.



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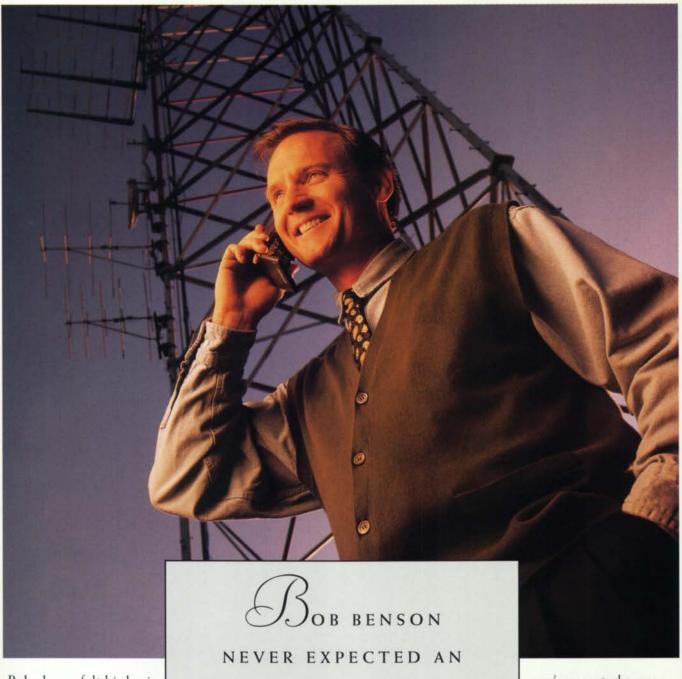
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