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AS WE SEE IT

JERRY ROCHE, EDITOR-IN-CHIEF



Good business: know the customer, and then some

Not surprisingly, I own a car. More accurately, the bank owns a car that I occasionally drive.

This particular vehicle was assembled in America, though the automaker is decidedly non-American.

Do I want my hard-earned cash siphoned from this country, into the pockets of some fabulously wealthy foreigner? I'm not ecstatic over the idea. But it's happening.

Seeing my dollars turned to yen (or marks, or whatever) before they reach their final destination, you see, is the lesser of two evils. A worse scenario would have me stuck on a back country road some night with a piece of equipment that refuses to awaken from a mid-winter's nap.

It doesn't matter that I'm paying \$19,000 for a machine that probably cost a fraction of that in parts and labor on the assembly line. I'm quite willing to pay extra for peace of mind.

What blows my mind is that the carmaker apparently knew this a long time ago!

The carmaker also knew that when I needed a new car, I would seek the advice of friends and acquaintances.

The carmaker knew that I would be willing to pay extra for resale value.

The carmaker knew that I would gladly pay a little extra for first-rate maintenance service, as long as the personnel at the dealership were respectful, prompt, efficient and knowledgeable.

Somehow, I'm thinking, this particular carmaker knew exactly what I wanted before I wanted it!

So, you see, I don't feel bad about giving him my business, no matter where he lives. The people at his company are on the ball, and I reward them for it. They may not be American, but they certainly value American business.

The point to this whole story is that the American consumer, with whom you deal,

is not as fickle as you might be led to believe. His or her loyalty can be bought, just like you can buy anything else in this great country of ours.

When I refer to "customer," of course, I'm referring to the people who view and/or use the landscapes you maintain. In some cases, they are homeowners; in some cases they are golfers; in some cases they are the parents of Little Leaguers. But in all cases, they are the people who give you the license to make a living.

The key is knowing what customers want, and how they want it—before they want it, if possible. When you can determine that—hey—the selling part is easy.

Here's the nut, then: talk to your customers (and prospective customers) regularly. In some business circles, this is known as "market research:"

- Before the season starts, send them a questionnaire like Jack Robertson told us in last month's issue (*mail surveys*).

- Invite key customers to your place of business. Buy them lunch. Talk about the services you are providing (*focus groups*).

- Make phone calls regularly, at least once a month, to as many customers as you can fit into your schedule (*phone surveys*).

- Visit homeowners between applications. Watch golfers and Little Leaguers play their games (*personal visitation*).

Most of all, be visible. And always, always be asking questions.

As George Toma told the Sports Turf Managers Association at its annual meeting late last year: to be truly successful, you need to do your job—"AND THEN SOME."

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All across America, people are saying beautiful things about pendimethalin.

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LANDSCAPE MANAGEMENT

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JANUARY 1994 VOL. 33, NO. 1

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Technology, communications, our changing society. All will have an impact on 'the keeping of the green.' Here's a look into the not-so-distant future of the golf course superintendent.

Jerry Roche

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Great for its salt tolerance, this sub-tropical grass can answer water restriction woes. It does, however, have a problem resisting some weeds.

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LM READER ADVISORY PANEL

Ken Gerlack
Contra Costa Landscaping
Martinez, Calif.

Twyla Hansen
Nebraska Wesleyan University
Lincoln, Neb.

Tim Hiers
Collier's Reserve
Naples, Fla.

Bill Prest
Springvale Country Club
North Olmsted, Ohio

Mark Schlossberg
Pro-Lawn Plus
Baltimore, Md.

Brian Storm
Terrascaping Inc.
Birch Run, Mich.

LANDSCAPE MANAGEMENT

"WE KNOW YOUR TURF"

ADVANSTAR Communications, Inc.,
7500 Old Oak Blvd. Cleveland, OH 44130
Phone: (216) 243-8100
Fax: (216) 891-2675

EDITORIAL STAFF

JERRY ROCHE, Editor-in-Chief
TERRY McIVER, Managing Editor
RON HALL, Senior Editor
MICHELLE THERRIEN, Graphic Designer
MAUREEN HREHOICK, Group Editor

BUSINESS STAFF

JON MIDUCKI, Publisher
RAY LENDER, Group Publisher
ROBERT EARLEY, Group Vice President
JUDY PAWLOWICZ, Production Manager
(218) 723-9281

ROSY BRADLEY, Senior Production Manager
DEBI HARMER, Production Director
DIANE BIAS, Administrative Coordinator

ADVERTISING OFFICES

CLEVELAND (HEADQUARTERS) OFFICE

7500 Old Oak Blvd.
Cleveland, OH 44130
Phone: (216) 243-8100
Fax: (216) 891-2675

JON MIDUCKI, Publisher: (216) 826-2855

ROBERT OHLSEN, National Sales Manager:
(216) 891-2682

ANNE LANGHENRY, Promotion/Research Mgr.:
(216) 891-2739

BRIAN KANABA, Reprint Sales Representative:
(216) 891-3155

DIANE BIAS, Administrative Coordinator:
(216) 891-2750

SEATTLE OFFICE

1333 N.W. Norcross
Seattle, WA 98177
Phone: (206) 367-5248
Fax: (206) 367-5367

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You might think using less insecticide means you'll have to put up with more insects. But that's not necessarily the case. Because *how* you use your insecticide is as important as *how much* you use. With the right tactics, you can use

a lot less and still get excellent results.

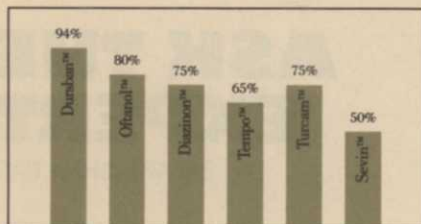
Here's an example. Mixing insecticide with insecticidal soap can reduce the amount of insecticide you need on your ornamentals by about 50 percent. Soap controls

most soft-bodied insects and mites. By adding insecticide, you'll also take care of tougher insects, like scales and worms. University studies suggest you may get better control than you get with insecticide alone.



A few ways to balance with your love for the environment





Studies show that Dursban delivers better chinch bug control at lower rates than other insecticides.

Knowing exactly when to apply insecticide helps, too. One way to monitor mole crickets, chinch bugs, webworms and cutworms is by mixing 1½ oz. of dish soap in two gallons of water and sprinkling it

even controls fire ants.

And Dursban also gives you plenty of application flexibility. It's available as a liquid, dry flowable, wettable powder in water soluble packets, granule, fertilizer or bait.

Now, we realize you probably

Face your hate for insects in your environment.

on a four-square-foot area of turf. If eggs have hatched, this soapy mixture will flush insects to the surface, and you can apply insecticide accordingly.

Your insecticide itself can also make a difference. After all, different insecticides work at different rates. Which is why Dursban* insecticide could be your best choice.



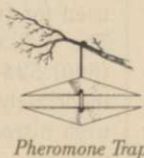
have some questions. That's why we created The Turf Manager's Guide To Responsible Pest Management. It's 44 pages packed with comprehensive information on the latest techniques for controlling insects, weeds and turf diseases.

For a free copy return the coupon, or call our toll-free telephone number. Because when you apply a little knowledge, you don't need to apply as much insecticide.



Why Adults Should Spend Time Catching Bugs.

If you want better results from the insecticide you use, insect traps can help. They allow you to find out when certain pest insects are present and time your insecticide applications accordingly. Insect traps are inexpensive, easy to use and they'll help you get greater control using less insecticide.



Pheromone Trap

Pitfall Trap



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ASK THE EXPERT

DR. BALAKRISHNA RAO

Curing fire blight

Problem: We have been seeing fire blight disease on a number of rosaceous plants in our area. Please provide a list of resistant or tolerant plants for planting. (Kentucky)

Solution: Fire blight disease caused by bacterium is a serious problem found on commercial and residential properties on a number of rosaceous plants. Dr. John Hartman from the University of Kentucky reports that landscape plants such as brambler, cotoneaster, crabapple, flowering pear, hawthorn mountain ash, pyracantha, serviceberry and spirea are susceptible to fire blight disease in your area. Dr. Hartman suggests using the following plant materials obtained from different sources to prevent losses to fire blight:

Resistant/tolerant cotoneasters: *Cotoneaster adpressus*, *C. adpressus praecox*, *C. adpressus praecox 'Boer'*, *C. apiculatus*, *C. bacillaris*, *C. dielsiana 'Elegans'*, *C. dielsianus*, *C. distica*, *C. foveolatus*, *C. franchetii*, *C. harroviana*, *C. integerrimus*, *C. microphylla*, *C. newryensis*, *C. nitens*, *C. salicifolius repandens*, 'Emerald Spray', *C. simonsi*, and *C. zabelii*.

Resistant/tolerant crabapples: Baskatong, Bob White, Centurion, David, Dolgo, Donald Wyman, Henry Kohanke, Liset, Naragansett, Professor Sprenger, Robinson, Sentinel, Strawberry Parfait, Sugartyme, Tschonokii, White Angel, *Malus baccata*, 'Jackii', *M. humnanensis 'Veitchii'*, and *M. sargentii 'Tina'*.

Tolerant ornamental pears: Alfred, Autumn Blaze, Bradford, Capitol, Cleveland Select, Fauriei and Whitehouse.

Resistant pyracanthas: Apache, Fiery Cascade, Mohave, Navaho, Pueblo, Rutgers, San Jose, Shawnee, Teton, *Pyracantha coccinea* Sensation, *P. koidzumii* Santa Cruz Prostrata.

Resistant spirea: *S. prunifolia* (bridal wreath).

Chipco Aliette WDG received an EPA label approval for management of fire blight disease on ornamental pear, pyracantha and hawthorne as of March 29, 1993. At this time the label did not include other important landscape ornamental plants such as crabapple or mountain ash, which are also susceptible to fire blight disease.

(*Rhone Poulenc's Aliette WDG lists fire blight suppression "to plants such as ornamental pear, pyracantha and hawthorne." It is not currently registered in California.—Ed.*)

The foliar applications should be made in conjunction with a strict sanitation program to reduce the spread of the disease to uninfected plants. Mix 25 lbs. of the product in 100 gal. of water for treating the foliage. It works as a preventive treatment. Therefore, it is important to apply the treatments early around pre-bloom stage and repeat at seven-day intervals until bloom period ends. Aliette is not registered in California. Read and follow label specifications.

Moss management in lawns

Problem: How is moss managed in lawns? We have tried insecticidal soap on golf greens without any luck. (Pennsylvania)

Solution: Establishment of moss and algae is generally associated with factors such as low fertility, poor drainage, too much

shade, soil compaction, wet conditions, poor air circulation or a combination of these factors. There are more than 13,000 types of mosses, with about 50 common in your area. Some appear to be associated with acidic soil and some others associated with alkaline soil conditions. Most species grow under a wide range of soil reactions. The insecticidal soap you have used is not labelled to manage moss.

However, Mycogen Corporation (in San Diego; 619-453-8030) has another fatty acid chemistry-based material called DeMoss, which is designed to manage moss on golf greens and other high value turfgrass. DeMoss contains potassium salts of fatty acids which are extracted from plant and/or animal sources. DeMoss acts upon contact by disrupting the cuticle and cellular membranes of moss, resulting in drying and death. It is active only while in solution, therefore it is important to have proper coverage and contact with most plants to be effective.

This material may foam while mixing; therefore, use a defoaming agent.

To manage moss, identify the primary reasons why moss is growing in a particular location and provide corrective measures.

Ammonium sulfate (10 lbs./1000 sq. ft.) applied on actively growing moss plants has reportedly been effective. Ammonium sulfate can also help the turf fill in as the moss thins out.

Copper sulfate (3 tbsp. in 5 gal. water/1000 sq. ft.) can also be used to manage moss problems. Copper sulfate can stain and is difficult to remove from clothing, so wear protective clothing and gloves.

The DeMoss herbicide is another option. Along with chemical management, it is important to make conditions favorable for the turfgrass to be more aggressive and fill in open bare spots. In some situations, consider overseeding if the lawn is thin.

Need a liquid slow-release fertilizer

Problem: Is there a liquid slow-release type of fertilizer for turf and ornamental plants?

Solution: Cleary's FLUF can be used. FLUF stands for flowable liquid urea formaldehyde. The analysis is 18-0-0. It can be used for turfgrass, in a nursery or trees on a program basis. The W.A. Cleary Chemical Corp. is in Somerset, New Jersey; (800) 524-1662. FLUF provides a continuously uniform and moderately slow release of nitrogen. It contains 7.2% methylene urea nitrogen, 4.5% water-insoluble nitrogen and 6.3% urea nitrogen.

There are a number of other liquid sources of fertilizer with low burn qualities, but they are not slow-release. FLUF is the only flowable available in the turf and ornamental markets.

Dr. Balakrishna Rao is Manager of Research and Technical Development for the Davey Tree Co., Kent, Ohio.

Mail questions to "Ask the Expert," LANDSCAPE MANAGEMENT, 7500 Old Oak Blvd., Cleveland, OH 44130. Please allow two to three months for an answer to appear in the magazine.

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YOUR SUP TOO DISTAN

Technology, communications, our changing society—all will have an impact on 'the keeping of the green.'

■ As the decades pass, our pace of life is accelerating, almost exponentially. Consider these trends in technology and communications:

**Just 150 years ago, it took weeks for news to travel from coast to coast via the Pony Express. About 100 years ago, it took minutes, via the Marconi wireless. But in 1951, on the television show "See It Now," Edward R. Murrow visually linked the East and West coasts for the first time. Today, physicists can see *live* pictures from deep space, millions of miles away.

**Just 150 years ago, the fastest speed reached by man was a mere 36 miles per hour, in a steam locomotive. In 1947, Col. Chuck Yeager reached a speed of 700 mph in an experimental X-1 jet plane. In 1969, the Apollo 10 space capsule plummeted back to Earth, from the moon, at a speed of 24,791 mph.

Following the trend—In the 1990s and beyond, golf course maintenance promises to follow this trend: technology and communications will explode, and superintendents will have to be more knowledgeable than ever before.

"Golf course superintendents will have to have an incredible love of the business because of the things they'll be subjected to," says Tim Hiers of Collier's Reserve, Naples, Fla. He thinks efficiency will be the key to the golf course of the future.

"Efficiency in water use, pesticide use, integrated pest management," he says. "And it's not just going to be the superintendent—it's going to be the secretaries and dust broom guys helping out, too."

Hiers also thinks that:

1) The superintendent will have to be a better time manager and a better personnel manager because of the competition for good employees.

2) More "fuel-efficient and lighter-weight equipment" will be developed.

3) Community relations will play an even bigger role in the job description.

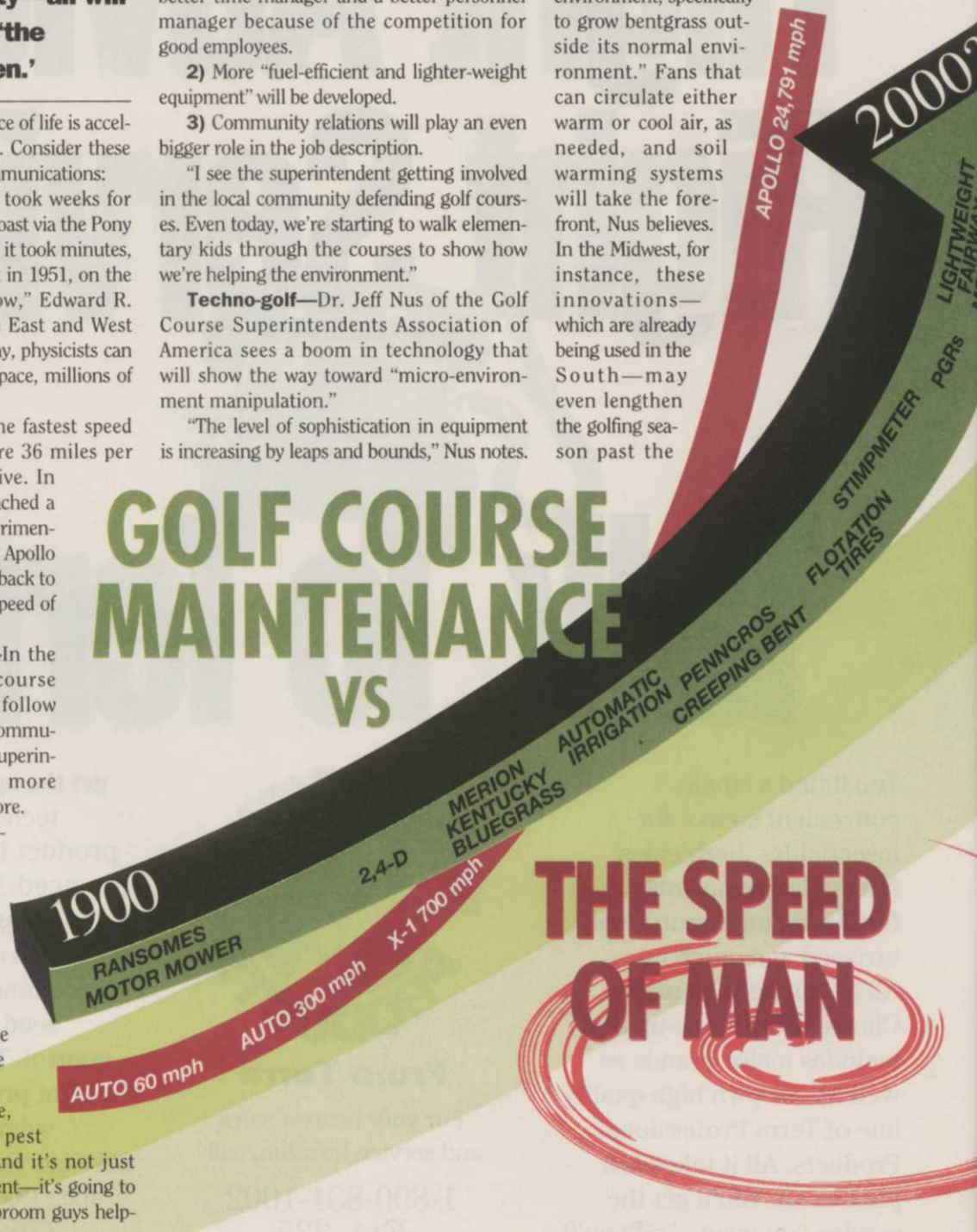
"I see the superintendent getting involved in the local community defending golf courses. Even today, we're starting to walk elementary kids through the courses to show how we're helping the environment."

Techno-golf—Dr. Jeff Nus of the Golf Course Superintendents Association of America sees a boom in technology that will show the way toward "micro-environment manipulation."

"The level of sophistication in equipment is increasing by leaps and bounds," Nus notes.

"You'll see equipment used to manipulate the environment, specifically to grow bentgrass outside its normal environment." Fans that can circulate either warm or cool air, as needed, and soil warming systems will take the forefront, Nus believes. In the Midwest, for instance, these innovations—which are already being used in the South—may even lengthen the golfing season past the

GOLF COURSE MAINTENANCE VS



THE SPEED OF MAN

ER (AND NOT T) FUTURE

first hard frost.

"The technology is being developed, and it's not just in the mowing and equipment areas," Nus admits.

A short list—Bill Roberts, a past president of the GCSAA, is superintendent at the Lochmoor Club in Grosse Pointe Woods, Mich. He believes these trends may soon have an impact on course maintenance:

1) Experts predict that, by 2000, more than two-thirds of our entry-level employees will be minorities, immigrants and women.

2) The playing clientele will also change: by 2000, demographers estimate that the over-65 population will be 34.9 million, double that of 1960.

3) As the decade wears on, more professional superintendents will feel the need to embrace the Computer Age, to cope with the volume of information they must process.

4) New technology will give us new products: water-soluble packaging, water-jet aerifiers, turf varieties that need less water and

are more resistant to pests, and disease diagnostic kits.

5) There will be a trend toward globalization of golf course maintenance, meaning an increasing opportunity for American superintendents to work abroad.

6) Supers will have the opportunity—even the responsibility—to impact their legislators: developing regulatory awareness, helping to communicate environmental impacts, and achieving regulatory compliance.

"Farsighted superintendents who monitor such trends and prepare thoughtfully for tomorrow will be in the best possible position, for themselves and for their facilities," Roberts observes.

Regionality—More specifically, here are some regional trends in golf course maintenance identified by the National Golf Foundation:

1) In the Southeast, subsurface drainage systems have become standard.

2) In the Midwest and

Northwest, public facilities are moving away from bluegrass and ryegrass and opting instead for bentgrass on their fairways and tees.

3) In the Northwest, superintendents frequently use sand topdressing programs for fairways to create better surface runoff and thereby improve turfgrass and playing conditions.

4) In the Southwest, most golf facilities being built have continuous cart paths for better traffic control and to save wear-and-tear on the course.

Finally, Hiers thinks, "You're going to see smarter placement of—and less—grass. What I mean by that is that the golf course will fit a typical golfer's game, wider landing areas for 'relaxed target golf' rather than the wide, long fairways we have today."

—Jerry Roche

Seeing the future at La Quinta resort

■ Communications, water and the environment, and safety. These are the future of golf course management, according to superintendent Michael Tellier of La Quinta, (Calif.) Hotel Golf and Tennis Resort.

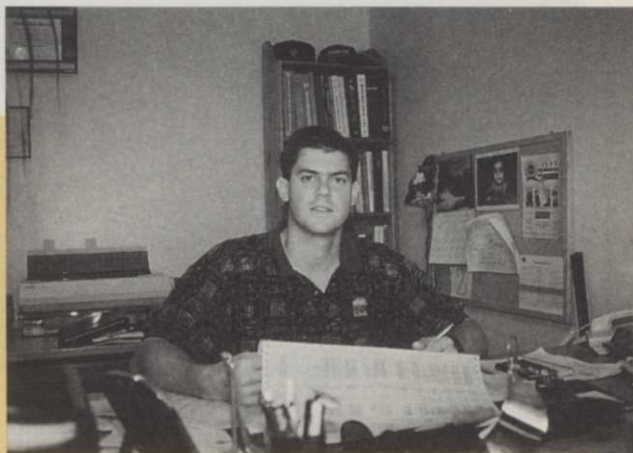
Over the five years that Tellier has been superintendent, there have been many changes. "I'm more involved with communications now," he says. "Because we have a year-round membership and a constant flow of activity connected with the resort itself, I work closely with the pros on staff and with the tournament directors, both of the hotel and of the event. It's necessary to interact in both the planning and execution stages. I make sure the tournament is carried out the way the directors want it to be, and that the condition of the course is consistent with the skill level of the players. The communication helps us deliver what is expected.

"Agronomically, water management is an increasing issue. We're looking at computerized irrigation to increase efficiency and cut costs. We're now operating from individual field satel-

lites so it's hard to control the system. Computerized irrigation will allow us to save water, make better use of that we do use, and it'll save on pumping costs.

"Overall, environmental issues have become more of a factor. Integrated Pest Management (IPM) has always been a part of my program, so basically, we've made some refinements there. The major changes when you talk about the environment are with compliance, regulatory issues, and ever-increasing paperwork. There are lots of regulations to comply with. You

continued on page 12



Michael Tellier of La Quinta says computers and safety issues, too, are very much in the future of the golf course superintendent's job.

TELLIER CONTINUED FROM PAGE 11

must (also) keep accurate, complete records on all of them.

"Safety has also become a key issue. Five years ago, we weren't doing much on safety. Now we spend more time with initial training of employees and we have weekly safety classes. There's a safety director for the entire complex who oversees the program. We have 80+ topics identified, and these topics are tailored to meet the needs of the individual departments."

Tellier is responsible for preparing and conducting the meetings with his staff. "We try to rotate the topics and present them in different ways," he says. "We bring in medical consultants, mechanics, manufacturing people, and use prepared videos. The videos range from proper operation of equipment to the use of respirators and pesticide handling."

He also takes every opportunity to serve as hands-on safety trainer for his crews in the field.

"Equipment has come a long way in the last five years," Tellier adds. "The lightweight mowing options; the trim

mowers and the popularity of grooming attachments give superintendents more options and help get the job done better, in a shorter time."

One of Tellier's three courses, The Dunes Course, was host to the John Deere Team Championship Golf Tournament two months ago. With 30 five-person teams playing in the modified scramble event, and other guests as well, Tellier had 230+ rounds per day for the one day of practice and two days of competition. The following week, the PGA Tour Qualifying School was held on the same course.

"With everything that's happened in the last five years, it's going to be exciting to see what the future will bring," Tellier concludes.

—This article was written by Suz Trusty of Trusty & Associates, a consultant to the horticulture trade, in Council Bluffs, Iowa.



TURF ROLLING: FAST GREENS WITHOUT TURF DAMAGE

■ According to Pat O'Brien of the U.S.G.A. Green Section, rolling greens may become popular in the near future.

"Rolling has been pretty much abandoned because we have such good green mowing equipment," he says. But the demand for fast greens—especially for professional tournament play—has forced superintendents to mow low and thus place so much stress on the turf-grass plant, that rolling might be making a comeback.

"Just about every PGA Tour course rolls its greens now," O'Brien notes. Baltusrol, for instance (site of the 1993 U.S. Open), had pre-roll stimpmeter readings of about 8'3". After they were rolled with a Salsco unit, they stimped out at 11'5".

"The stimpmeter is the main reason for the demand for fast greens," O'Brien observes. "And the roller will increase green speed without having to mow lower."

Rolling will also help the green's putting consistency, eliminating footprints, divots, spike marks, diseases, weeds and dry spots, especially in the "lumpy donut," that one- to 12-foot radius around the hole. Putts can "hiccup" when they hit lumps in that area, where the ball is rolling slowest and most likely to be influenced.

O'Brien suggests that superintendents who are interested in rolling greens should experiment with it. The best time to roll is before special tournaments or early in the golfing season when the greens are bumpier. Supers should *not* roll, however, after irrigation or rainfall, after topdressing or fertilization.

Two manufacturers of greens rollers include Salsco (1-203-271-1682) and Cultural Turf Technologies (1-800-793-7655)

—J.R.

Reel mowers: Getting better every year

Work smart with lighter, quicker reel mowers. Shop around. You'll find one with something new.

■ Budget cuts and time constraints make your reel mower the most important piece of equipment you own.

You want a mowing unit that's durable, so you don't waste your time repairing it.

You might want a versatile machine, one that comes with many attachments, so you don't have to buy multiple equipment. Some mowers mulch, sweep, remove snow and have broom attachments.

It's easy to become jaded when talking about mowers. They all seem alike, with little change from year to year. But while it may seem that mowers change little over the years, it all depends on what you want the unit to accomplish, and the time you're willing to invest in shopping around.

And if you're brand loyal—like so many of you are—don't worry about not shopping around. Your regular supplier has no doubt been busy adding a new time-saving innovation to your old favorite.

Here's a rundown of the major greens and fairway reel mowers for 1994.

—Terry McIver

Jacobsen's Greens King IV now has 11-blade reels. (#313)



National 68" Triplex is compact, productive. (#324)



Ransomes TC-28 greens-mower cuts 2,240 sq. ft. of turf per hour. (#315)



John Deere's 2243 greens mower. (#312)



Kubota's Verti-Reel triplex easily converts to a vertical cutter or core buster. (#322)



Bunton's fairway mowers have 'cruise control' for steady speed and uniform optimum cutting. (#318)



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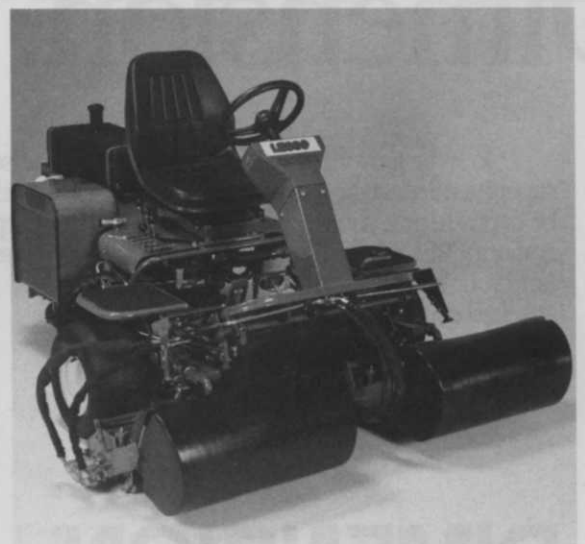
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GREENS MOWERS FOR 1994

Company	Model	Features
Bunton Circle No. <u>311</u>	Triplex greensmower walk-behinds	18 hp, twin cylinder Onan engine or optional 16.5 hp 3-cylinder water-cooled Kubota diesel engine; hydrostatic closed-circuit drive ; anti-vibration engine mounts; 61.5" swath. 19", 22" and 26" greensmowers, with powered rotary brush and thatcher attachments for grain control and healthy turf; non-floating head design, dual-powered drive drum rollers for clean cuts
John Deere Circle No. <u>312</u>	2243 greens mower walk-behinds	18 hp Kawasaki 4-cycle, V-twin engine; 1270 lbs; 5-inch reel diameter; reel-to-bedknife adjustment; hydrostatic drive ; 0-4 mph mowing speed . Model 22 and 22R walk-behind mowers, with aluminum traction rolls and internal differential drive within the rolls
Jacobsen Circle No. <u>313</u>	Greens King IV walk-behinds	New 11-blade reels , for a .180" frequency of cut at 3.7 mph; Kohler 16 hp, 4-cycle gas engine or Kubota 16.5 hp diesel; cuts a 62" swath. 22" standard greens mowers with 2- or 4-cycle Honda or Jacobsen engines and Turf Groomer greens conditioner. The Greens King 422 has a new clutch design 4 hp Honda engine
Lesco Circle No. <u>314</u>	300/300 D	Now with the 18-hp Kohler V-Twin command engine; choice of float or positive cutting units ; 60 3/4 inch swath; six or nine blades; 8 blades on heavy-duty unit; power hydraulic steering
Ransomes America Circle No. <u>315</u>	TC-28 greens mower	28" cutting swath; cuts 2,240 sq.yds/hour ; split drive roll with differential, for easy turning; easy to adjust height; easy pull start; 5.2 hp Kubota engine
Toro Circle No. <u>316</u>	Greensmaster	The company reports the new version of its Greensmaster mower debuts at the January GCSAA show in Dallas. Read all about it in February's <i>LANDSCAPE MANAGEMENT</i>

Brouwer's big 5-gang PTO driven mowers have a 'floating-mowing-unit' design that works well on wet grass. (#317)

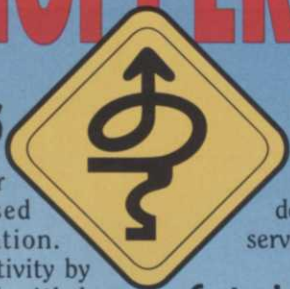


The Lesco 300 Greensmower comes with floating or positive cutting units.

continued on page 18

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the ability to make all the right moves for mowing quality and time-saving productivity.



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Square-Corner Turnability



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FAIRWAY MOWERS FOR 1994

Company	Model	Features
Brouwer Circle No. <u>317</u>	PTO mowers	The standard mowers have fixed units. The fairway models have a "floating-mowing-unit," for quality cut, even in wet conditions. All models have positive height of cut adjustment, optional quick-height adjusters and Wheel Rollers. In 5- or 7-gang units, with 4- to 8-blade reels.
Bunton Circle No. <u>318</u>	BT5138-48KD	All traction turf mower, with a unique hydraulic controlled weight transfer system for variable weighted traction. Kubota 48-hp engine; cruise control for steady speed and uniform cutting; two-wheel/four-wheel hydrostatic transmission. Bunton also makes 3- and 5-gang hydraulic hitch mowers.
John Deere Circle No. <u>319</u>	3215/3235	Lightweight fairway mowers feature "Rotate For Service" cutting unit suspension for easy service to cutting units. 3215 has a 25.5-hp engine and the 3235 has a 32-hp engine. Both are liquid cooled diesels.
Jacobsen Circle No. <u>320</u>	LF-3810	This is a lightweight mower for fairways and roughs. High-torque reel motors and 38-hp liquid-cooled engine; great traction; 26-inch diameter tires, less than 12 psi ground pressure. ST-5111 A five-gang hydraulic mower; 11-ft. cut; rear-wheel power steering for close trimming. 1,500-hour warranty; 51-hp liquid-cooled diesel engine. Other models include 5- and 7-gang hydraulic rangers and Tri-King Triplex mowers; and LF-100 lightweight fairway mower. Ask about the GreenSentry Oil System Monitor for leak alerts.
King O' Lawn Circle No. <u>321</u>	4093 Series	A walk-behind mower for trimming; 21" swath; 5 or 7 blades; Briggs & Stratton engine. Cuts 3/8 to 2-1/2 inches.
Kubota Circle No. <u>322</u>	VR3700	The Verti-Reel Triplex expands the capabilities of the F-Series tractors. 24-hp or 20-hp Kubota engines, 70-inch swath and heights ranging from .375 to 3 inches. Converts from a reel mower to vertical cutter or core buster in a matter of minutes.
Lesco Circle No. <u>323</u>	ST 212	28-hp Kubota diesel engine and newly-designed hydraulics features a longer steering column, a padded, tilt steering wheel, and deluxe seat. A control valve allows the operator to pre-set mowing speed up to six mph to match the cutting situation.
National Circle No. <u>324</u>	68" Triplex	This mower goes almost anywhere, says National. It fits through 38-inch gates; groom a half-acre in 15 minutes with less than half the fuel of a comparable riding rotary mower; 60 blade reels; 4mph top speed.
Ransomes Circle No. <u>325</u>	300/350D	The Model 350D fairway mower has the engine over the drive wheels for better hill climbing ability. Available in two- or four-wheel drive models; 42-hp, 4-cylinder, water-cooled diesel engine. Wide cutting width of 11.5 feet. Max cut speed 9 mph. The 300 is a light, midweight yet productive fairway reel mower with a 38-hp diesel engine; features hydrostatic 4-wheel drive.
Roseman Circle No. <u>326</u>	Hydra-Plex 370	Includes a 22-hp engine; 25" cutting heads; 7-psi ground pressure; 70" swath; high floatation frame; variable reel speed.
Toro Circle No. <u>327</u>	Reelmaster	New version of the Reelmaster debuts at January's GCSAA show in Dallas. Watch for details in February's <i>LM</i> .

Smart scheduling

Versatility, like using diversified roving crews, is the key to this super-efficient maintenance agency.

■ Keeping 450 acres of rolling parklands beautifully manicured is a challenge in itself. Include high-use athletic fields and the challenge increases dramatically.

That is the task performed daily by the Gainesville (Ga.) Parks and Recreation Agency. Assistant director Roy Hammond is responsible for coordinating the labor schedules and equipment needs to meet the challenge. "There are no 'Keep off the Grass' signs here," Hammond says. "We encourage people to enjoy our beautiful parks...and our mild winters and warm summers draw people to the parks year-round."

For maximum efficiency, the city is divided into four main areas of responsibility. The high visibility areas, such as the 55-acre City Park in the center of town, are assigned to a team of one supervisor and three part-time helpers.

Three teams made up of one supervisor and two part-time workers are assigned, respectively, to the wilderness trails, small neighborhood parks around the city, and as a "roving crew." The roving crew moves throughout the city to take care of various odd-sized areas of land owned by the city and provides support for the other crews



Outfront zero-radius riding mowers are the primary mowers in the high visibility and high-use tracts. These are equipped with cutting decks ranging from 52 to 72 inches.

when needed.

"We try to do most of our cutting from 8 to 11 a.m., especially in the high-use areas," says Hammond. "We have a crew go in with two of our Grasshopper riding mowers and they are able to cut these areas quickly, before we get too many visitors."

In addition to day-to-day scheduling considerations, however, seasonal scheduling is a year-round proposition. The annual schedule (see box) helps Hammond's agency maintain one of the most cost-efficient and successful maintenance programs in the country.

Choosing and maintaining durable equipment is important when staying on schedule. Outfront zero-radius riding mowers are the primary mowers in the high-visibility and high-use tracts. Mower cutting decks range from 52 to 72 inches. Some walk-behinds are also used in those places inaccessible to larger equipment.

Areas that need a specially manicured look, such as the 50 acres of athletic fields,

are cut shorter using the Quik-D-Tatch Vac grasscatching systems.

In addition to cutting and landscaping, many of the agency's personnel can perform electrical work, welding, bricklaying and other valuable tasks. That way, when it rains or during the off-season, the teams can build pavilions, shelters and picnic tables.

"When the operators know they are part of a team and that they have a say in the entire Gainesville park system, they take a lot of pride in their work," says Hammond. "That pride is evident in the many compliments we receive from our citizens."

Hammond points out that during 25 weeks of the year, 60 to 100 softball teams enjoy the grass infields of the city's ball diamonds each weekend and 60 to 70 teams play on the fields each weeknight. "But activities take place in all of our parks throughout the year," says Hammond. "We can't let up our guard any time of the year."

GAINESVILLE (GA.) PARKS & RECREATION AGENCY

maintenance schedule

Task	Time of year
Aeration	Oct. and Nov.
Controlled burn-off	late Jan. thru Feb.
Fertilization	spring and fall
Mowing	March thru mid-Nov.
Pre-emergence weed control	Dec. thru Feb.
Seeding	Oct. and Nov.

Rainy day training



■ Because they provide the ultimate in flexibility, video programs are invaluable as training tools in the golf/landscape markets. Outdoor maintenance tasks are dependent on varying weather patterns, so video training can be conducted on days when the weather precludes normal maintenance schedules.

Videos are also an inexpensive way to get the message of a recognized expert. They are one-way, instant and highly visual educational tools.

However, because video viewing is a

static rather than dynamic process, you must remember that the medium supports—not replaces—instruction. Encourage the trainee to interact with the medium.

To be most effective, the video should:

- be used at or near the working area;
- be accessible to everyone;
- feature close-up photography demonstrating exactly how to do a par-

continued on page 25

Video training sessions may not be as entertaining as ABC-TV's 'Tool Time,' but—when properly conducted—are much more informative.

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VEP Video Productions

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San Luis Obispo, CA 93407

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"Annual Plant Bed Preparation and Installation"

15 min.

\$34.95 includes S&H

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101 Court Sq.

Decatur, GA 30030

(404) 371-2821

"Basic Landscape Plan Drawing"

60 minutes

\$59.95 + \$5 S&H

Progress Products

8652 W. Progress Dr.

Littleton, CO 80123

(303) 973-1011

"Careers in Horticulture"

15 minutes

\$39.95 includes S&H

American Society for Horticultural Science

SOME AVAILABLE VIDEOS

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"Common Turfgrass Diseases"

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Lesco Inc., Attn. Art Wick

20005 Lake Rd.

Rocky River, OH 44116

(800) 321-5325

"Common Turfgrass Insects"

no time specified, no price specified

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20005 Lake Rd.

Rocky River, OH 44116

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"Common Turfgrass Weeds"

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"Creating and Maintaining a Shade Garden"

45 minutes

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Benner's Gardens

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"Equipment Use, Safety and Field Maintenance"

15 min.

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101 Court Sq.

Decatur, GA 30030

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continued on page 24

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Turn Customers Into
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Standard *Professional Turf* fertilizer formulations incorporating *Team* include:

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- 20-2-6
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VIDEOS *continued from page 22*

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"Floyd Perry's ABCs of Grounds Maintenance"

softball 40 mins.; baseball 55 mins.
\$49.95 + \$5.99 S&H each tape
GM Video
P.O. Box 617018
Orlando, FL 32861
(800) 886-2006

"Irrigation Maintenance and Troubleshooting"

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20005 Lake Rd.
Rocky River, OH 44116
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"Knowing Mowing Safety"

90 minutes
\$20 includes S&H
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"Landscape Irrigation Maintenance & Troubleshooting"

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"Planting Procedures for Woody Ornamentals"

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DeKalb Extension Service—Video
101 Court Sq.
Decatur, GA 30030
(404) 371-2821

"Power Blower Maintenance"

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7500 Old Oak Blvd.
Cleveland, OH 44130
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Cleveland, OH 44130
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International Society of Arboriculture
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Cleveland, OH 44130
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"Snow Plowing"

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\$20 each or \$150 for all 10
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Lesco Inc., Attn. Art Wick
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Rocky River, OH 44116
(800) 321-5325

"Using Pesticides Safely"

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\$120 includes S&H
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College Park, MD 20742
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TRAINING *cont. from page 20*

ticular process;

- be technically correct and complete; and

- be free of any sales pitches.

Setting up the training room:

- ▶ Flat-screen monitors like those manufactured by Sony are the best: they allow you to fan the seating wider—as much as 45 degrees—to the sides. However, if you must fan seating too far laterally using one monitor, two monitors placed in the corners of the room, at opposite inward angles, are better than one.

- ▶ Monitors should be placed slightly higher than eye level to offer all viewers good sightlines.

- ▶ If you have a large training room, you might want to wire additional speakers near the back of the room.

- ▶ Avoid glare. Use lights that can be

dimmed, if possible. The best lighting is low, but not so dark that trainees cannot take notes.

- ▶ Check noise levels. Make sure heating, air conditioning, ringing telephones, and/or outside construction do not interfere with video viewing.

- ▶ Be especially careful with chairs, as your employees are not people who normally sit for long periods of time. Chairs should be comfortable, but not too comfortable. Contoured wood, plastic or fabric with schoolroom-type desks attached are best; cushioned seats should be avoided.

- ▶ Test your equipment. Then cue the video before showing it. You'll save valuable time—and, sometimes, embarrassment—by not having to fast-forward or rewind in front of the trainees.

Showing the training videos:

- 1) Before the video begins, write its

main points on a board or provide summary notes to each trainee. Go over the points.

- 2) Encourage note-taking. The best teaching method is see/write/say/do.

- 3) Stay in the room as a proctor during the video, if possible. Actively supervise; you'll be sending a message that the information is important enough for you to watch (again).

- 4) Trainees should not view videos for longer than 20 minutes without a break of some kind. Sometimes, it's not a bad idea to pause the video every 10 to 12 minutes and lead a short discussion. It keeps viewers involved and interested. During the discussions, personal experiences help the viewers relate to each other. This is also a good time to reiterate key points.

- 5) Afterward, give the trainees a written exam.

—Jerry Roche

How to select an accountant

by Dan Sautner,
Padgett Business Services

- If you're in business for yourself, at the very least you'll need an accountant to help prepare your tax return, unless taxation is a major hobby of yours.

Use an accountant to prepare monthly, quarterly and annual reporting. Not following the government's strict regulations, can mean heavy fines, so it's best left to people who work with it every day.

The government has devised a tax system that places a large burden on the independent business owner. With few exceptions, the reports required of a five-person operation are similar to those required of much larger organizations.

Besides complying with government demands, a good accountant should also help with other financial considerations. This leads us to the major criteria for selecting an accountant:

(1) Will you and your accountant understand each other?

The lines of communication must be clear, and the accountant must take time to review the financial information provided. A good accountant drops the jargon and speaks conversationally.

Select someone who appears interested in your business and someone with whom you feel you can develop a rapport.

- Make sure you know your contact per-

son. Also: how will the communication work? On what schedule and under what circumstances will your calls be returned? Your new accountant cannot be available 24 hours a day, but it is reasonable to expect a return call within 24 hours.

(2) Can you get good turnaround?

To be useful, accounting information must be on time. Find an accountant who can set a delivery schedule that gets you the information near the end of the period. If it's a monthly P&L, you need the information within 10 days. If it's quarterly information, it can still be useful within 20 days of the quarter's end. If it's annual work, the information should be available within 45 to 60 days.

To truly run your business properly, get accounting information every 30 days. A good accountant tells you what information to supply, when—and then will stick to the schedule.

(3) Where do you fit in the accountant's scheme of things?

Your business will have to be important to the accountant. In the business, the largest clients are served first, because they generate the largest fees. Find out where your organization will fit into this scheme. If you are the smallest client your accountant is handling, can you really expect timely service? Look for a company that has selected your size of company as its target client.

(4) What is the accountant's education/experience level?

Look beyond education and experience, to experience in your field, in your industry, or in businesses of your size.

Good accountants are able to answer technical questions. Since no one practicing taxation can ever claim to know everything, your accountant should have the ability and resources to ask others for a second opinion.

(5) What services will be provided?

You should know exactly what will be provided, and how often. Be skeptical of the following offers:

- (a) A person who says he or she will do everything. (No one can.) Worse, "everything" can be defined by the accountant.

- (b) The accountant who wants to build your tax return into the price. This may mean that your return will be competing with "cash" returns when it is due.

- (c) An accountant who says he or she will do the tax return for free. (In your own business, how much importance do you place on "free" work?)

(6) What is the basis for fees?

Fees should be based on a combination of the volume and the condition of the accounting information. Also, you should not have to pay for extras that have not been discussed beforehand. You have the right to approve any fee increase before the work is done.

Fees should be affordable. For smaller companies, it depends on your location and volume of work. Shop for value. When comparing two different fees, make sure that you also compare the level of service.

—The author is chairman of Padgett Business Services, Inc., of Athens, Ga. This is the second in a series of basic accounting articles he is writing for *LANDSCAPE MANAGEMENT*.

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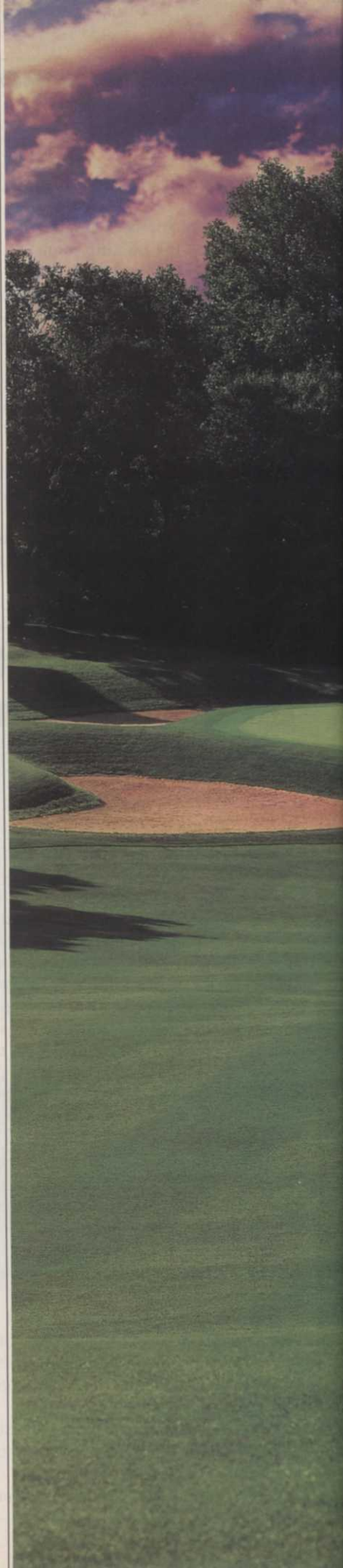
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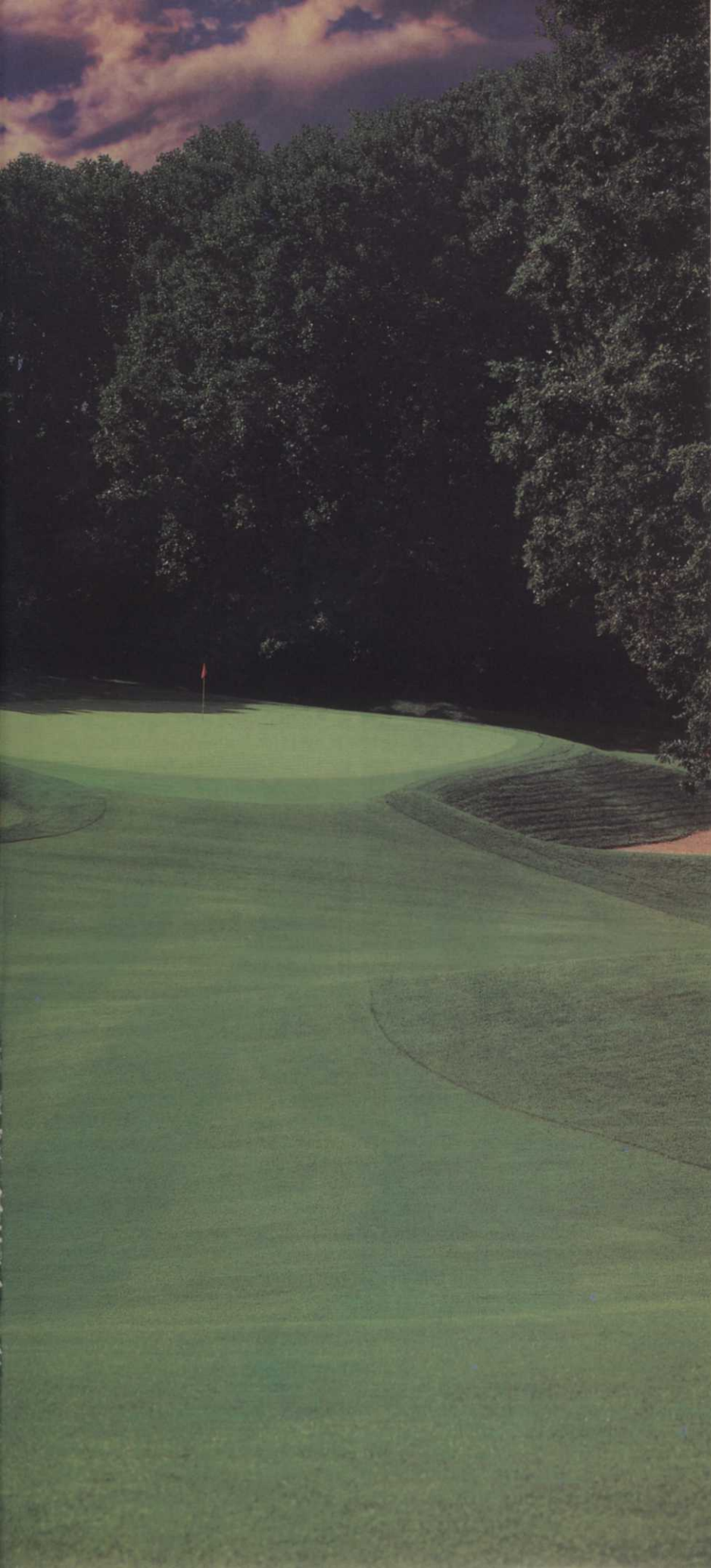
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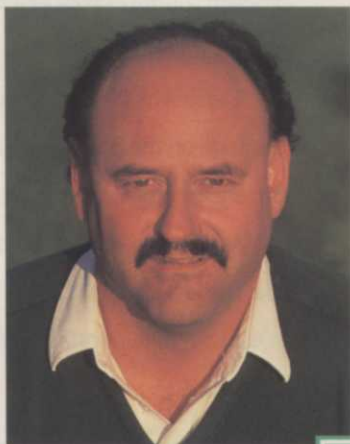
Plant growth regulation of mowing time

■ Plant growth regulators (PGRs) aren't just for turfgrass growth control any longer. The newest generation of products has become a tool to help keep turf healthier, denser and greener. They can help turf managers deliver the high aesthetic quality demanded by today's homeowners, golfers, park patrons and other sports participants.

"Primo made the fairways appear highly groomed. In fact, after the first couple of applications, the turf seemed denser. And the *Poa annua* stood straight up, which made it very easy to cut off."

Healthier turf— Another benefit of PGRs is healthier turf. Roger Sudbury of

Ken Wentland of Lied's Landscaping used PGRs last year to slow growth for up to six weeks on the lawns of commercial accounts.



With labels for all major warm- and cool-season turf, PGRs are used for growth management, trimming and edging.



Yakubisin: the *Poa annua* stood straight up

For Ken Wentland, ornamental pest specialist at Lied's Landscape in Sussex, Wis., PGRs help his crews keep turf growth under control, even during peak growing periods. Wentland used PGRs during the Midwest's unusually wet 1993 spring and summer, when Lied's mowing schedule was squeezed between rain and rapid turf growth.

"Some of our commercial accounts are mowed on alternate weeks—just enough to keep them looking respectable," says Wentland. "Last year, our wet spring caused tremendous growth, which slowed mowing considerably."

To help his crews keep up, Wentland applied Primo, one of the newest PGRs on the market, to a bluegrass/fescue/ryegrass turf mix. "The PGR helped tremendously, for about six weeks," Wentland explains, "and when we did mow there were fewer clippings. That saved us a lot of time."

How they work— Although they share a common goal of controlling turf growth, the two types of PGRs work in different manners.

Type I or mitotic toxicants are cell initiation inhibitors and suppressors such as Embark and Limit. They inhibit plant growth by suppressing cell division.

Type II are gibberellic acid (GA) inhibitors that reduce GA biosynthesis, which results in shortened stems and leaf blades. Primo, Cutless and Scott's TGR are members of this group.

The way PGRs enter turf plants also varies. Some, like Primo, are foliar absorbed

Sudbury: healthier, stronger turf with good color



directly into the leaf upon application and do not require watering in. Others may require irrigation or rain to activate absorption through the root system.

Improving appearance— The PGRs on today's market claim varying rates of growth reduction and control, with some as high as 50 percent growth and clipping reduction. But Wentland also appreciates the turf enhancements provided by PGRs.

"We noticed a darker green turf color," he says. "And clippings reduction also was important. Our workers were much happier because they could mow quicker and didn't have to bag clippings."

Clipping reduction was the reason John Yakubisin, the superintendent at Rolling Rock Club in Ligonier, Pa., used PGRs on his fairways last year. "I wanted the most playable golf surface possible without any debris or mess from clippings," he says.

Winter Haven, Fla., notes stronger, healthier turf after using them. He oversees Willowbrook Golf Course and Chain of Lakes Complex, a baseball stadium and five practice fields, spring training home for the Cleveland Indians.

"The PGR allows us to keep up with turf growth during some monsoon-type rains last spring," says Sudbury. "With all that growth, we would have had to double- and triple-mow and could have had scalping. We didn't have any of those problems. What we did have was healthier, stronger turf with good color."

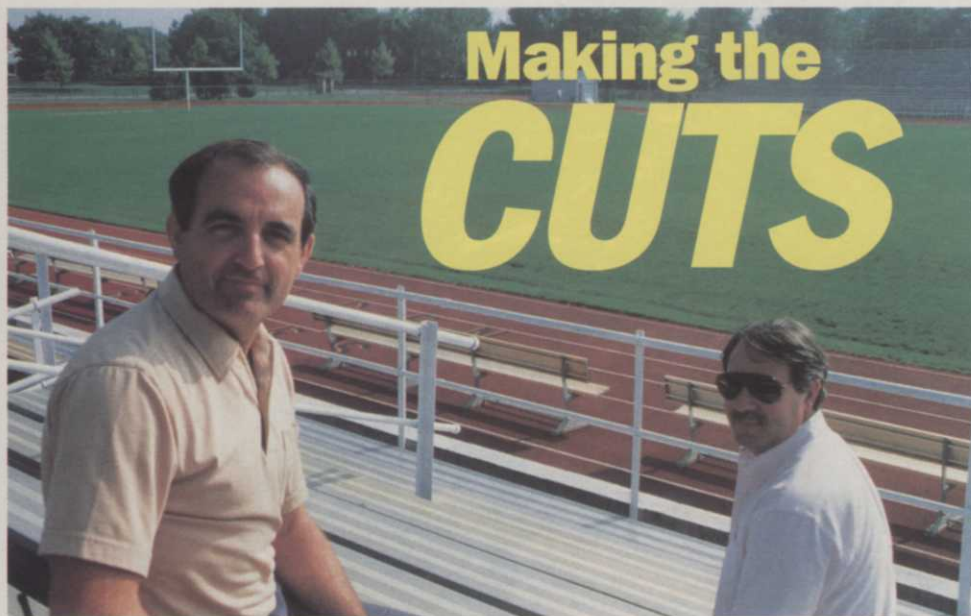
A short history— When PGRs were introduced in the 1950s, they were primarily used on low-maintenance areas due to their inconsistent performance. As new products were developed, PGRs became more widely accepted in most turf locations.

Depending on individual product labels, PGRs are available for all major warm- and cool-season turf. The products can be used for turf growth management on residential and commercial sites as well as for trimming and edging. They can control turf growth throughout golf courses and on other sports fields.

"They saved us a tremendous amount of time," says Sudbury.

Since time equates to money, PGRs save money through the hours they save and other benefits. They are an interesting, effective alternative for astute turf managers.

Making the CUTS



Why are Bob Meyer (left) and Joe Herchko smiling? Because, despite cuts, the Upper Arlington football field is often host to an Ohio high school playoff game in November.

In this upscale central Ohio school system, public support and versatile crews help stretch shrinking dollars.

■ Bob Meyer no sooner took over the grounds department for Upper Arlington City Schools than the Board of Education ordered cuts. His newness (six months on the job, after transferring from the plant ops department) didn't help at all.

The grounds department was ordered to drastically reduce its workforce and budget last year, Meyer notes. "And it's something we struggled with, especially with a new person. Obviously, some things are going to suffer."

The most obvious result of the budget cuts is Meyer's schedule. He has been known to be "on the phone, on the radio and in a meeting" all at once, according to his secretary.

Another key to keeping seven athletic fields (four football, two soccer, one baseball) attractive and safe is parent and student involvement, Meyer notes. "It would be near impossible to sustain our maintenance program with half the people and 60 percent of the money that we used to have," he says. "We have parent-teacher groups and boosters who are very concerned. For instance, we didn't have enough money for all the weed treatments on the baseball field, so the parents purchased some material to kill the clover for us. There's a lot of pride in athletics here."

Field maintenance—The person Meyer succeeded, Joe Herchko, developed

an intensive maintenance program over eight years. Thankfully, Herchko remains in school management.

Usually, when the community sees field maintenance falling off a little, "its reaction will be overwhelming," Her-

check believes. "They will take action on their own. That's not a good situation, but it happens. They'll let us know we're not getting the job done."

Another way Meyer has addressed the cutbacks is through crew scheduling. "We've gone to fully mobilized crews," he says. "Nobody is stationary, and they do everything. The difficult thing is scheduling where they'll be, especially accommodating the athletic events and special events like the Fourth of July celebration."

While he was in charge, Herchko defined three levels of field maintenance:

- 1) High—fully irrigated and year-round fertilization and weed control
- 2) Secondary—"do as much as we can"
- 3) Safety only

"The levels change according to the season and according to the bigger picture: school priorities and manpower," Herchko notes. "At the minimum, we mowed each site once a week. We did that for four years, when we also set time apart for working on the fields' other priorities."

At one time, the highest level fields received annual overseeding, topdressing and sub-soil conditioning; aerification four times a year; a full year-round fertilization program; and full irrigation with a Rainbird Maxi-Com system. The lowest level fields were mowed and lined prior to gametime, free of obstructions and pot-

holes, and smooth. "We've tried to irrigate even at the lowest level," Herchko says. "We irrigated 80 percent of everything the kids play on."

Landscape maintenance—The school grounds are another story. All areas are mowed, bushes and shrubs trimmed, and sidewalks blown clear each week. "We may not be able to mow it all once a week like we used to," Meyer observes, "but we'll do the areas people see."

The entire grounds is also given a weekly visual inspection by Meyer and head groundskeeper Roger Geers. "Ornamentals are done by a parent-teachers grounds committee at each school. And a lot of the elementary schools have student maintenance programs," Meyer relates.

Geers himself has also accepted added responsibility. "Lately, I've had to also handle the playground equipment, basketball hoop repair and replacement, picnic table and trash can maintenance."

This is all new to Meyer. "I've worked in maintenance and management for many years, but this grounds thing at times is very intense and very busy," he says. "Everybody has an opinion because it's so visible."

—Jerry Roche

Fertilization schedule Upper Arlington City Schools

H.S. baseball field

H.S. softball field, if available

Mid-May	22-0-22
Early July	32-4-3 with Dicot III
Early Fall	32-3-10

H.S. stadium

Mid-May	32-3-10
Early July	32-3-10
Mid-August	22-0-22
Early Fall	Starter 22-0-22
Late Fall	Starter Sports Turf

Middle school football field

Mid-May	32-3-10
Early July	32-4-3 with Dicot III
Mid-August	22-0-22
Early Fall	22-0-22
Late Fall	Starter Sports Turf

Jr. high football field

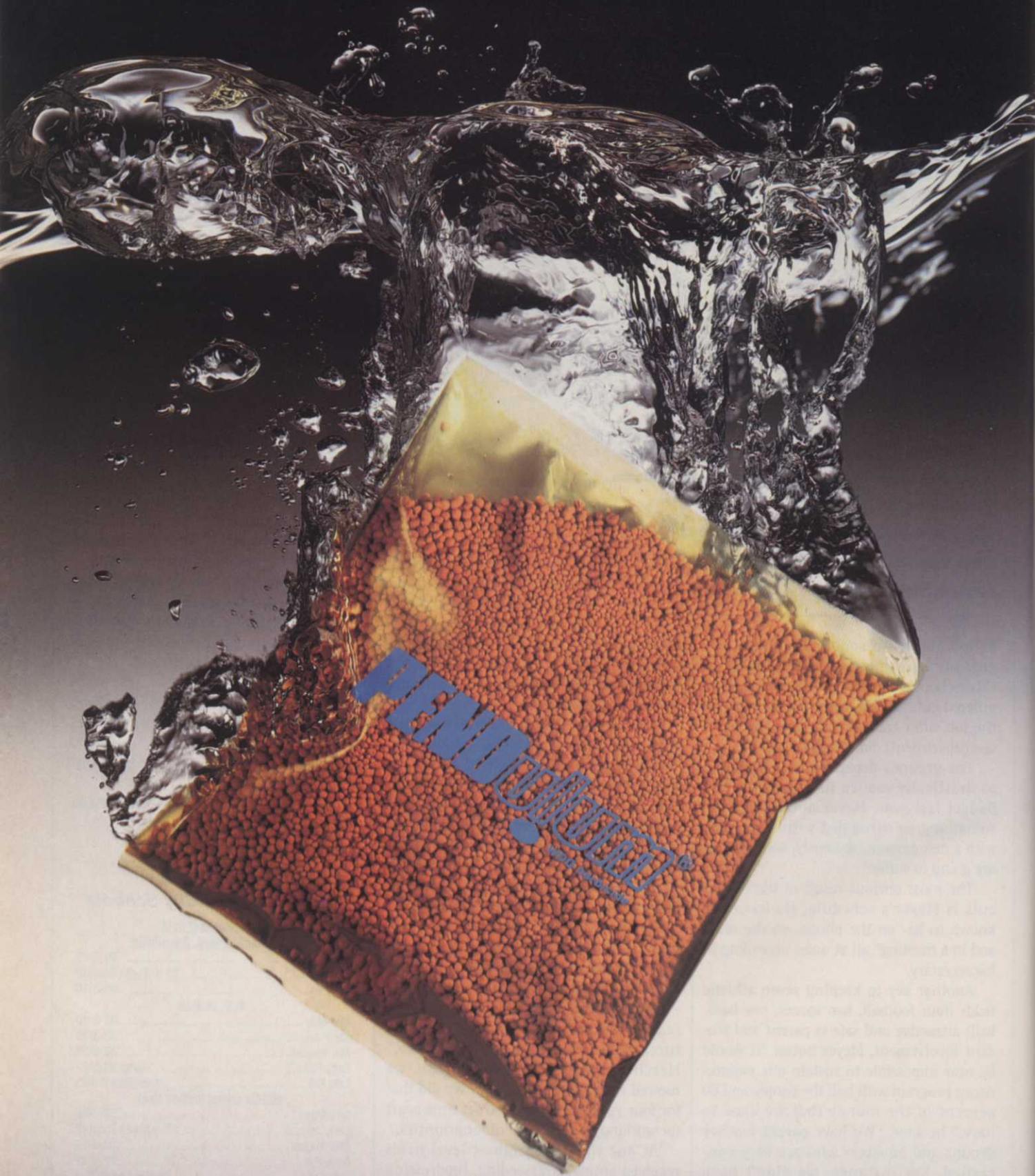
Mid-May	32-4-3 with Dicot III
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Tremont soccer field

Mid-May	32-4-3 with Dicot III
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High-view areas

Mid-May	32-4-3 with Dicot III
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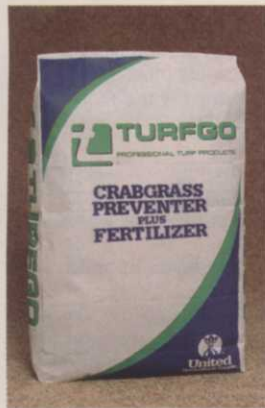
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Circle No. 122 on Reader Inquiry Card

Fertigation: it's what you make it

Depending on the season, weather conditions, and irrigation capability, fertigation can closely parallel a traditional dry application program.

by Ed Nash,
PlantStar Fertigation

■ Imagine this: fertilizing an entire golf course or commercial landscape overnight with no labor.

And this: prescription feeding turfgrass with a predictable degree of efficacy and efficiency.

And this: distributing accurate amounts of nutrients for uniform growth and color, eliminating streaking or burning.

And, finally, this: reducing the fertilizer budget both in quantity and cost.

Sound too good to be true? Then consider the advantages of fertigation, which is injecting liquid fertilizer into irrigation water. It's easy, convenient, and—most importantly—the control rests in the hands of you, the manager.

Fertigation allows you to provide balanced levels of macro- and micro-nutrients, produces excellent turfgrass, and is environmentally prudent while saving money.

The concept of fertigation is by no means new. Florida alone has more than 1,000 fertigation systems on golf courses.

Traditional thought is that fertigation should be limited to areas where irrigation occurs frequently, such as on light, sandy soils, or where temperature and humidity play a major role in soil moisture. However, experience is proving that no matter where you operate, "if you irrigate, you can fertigate."

Designing a system—Factors that will determine your success are: the differ-

ent types of injection equipment, storage tanks and liquid handling systems, the variety of fertilizer blends, and fertilizer analysis. Fertigation can accomplish your agronomic goals during any particular season of the year. It can be done prudently, cost-effectively and agronomically soundly—if you select the proper equipment and materials.

In today's fertigation market, capacities of injection delivery pumps range from fractions of a gallon per hour to several hundred gallons per hour. Selecting a supplier whose components can achieve your goals is critical. Choosing a system too limited in its injection capacity and versatility can handicap you in reaping all the benefits of fertigation.

Timing makes a difference in your approach. Depending on the season of the year, weather conditions, and the ability to irrigate, fertigation can closely parallel a traditional dry application program.

For example, a typical golf course may be irrigating 80 acres of turfgrass. Choosing an injection system that could deliver approximately 170 gallons per hour

of liquid fertilizer, such as the high analysis product Coron (28-0-0), in an eight-hour irrigation period would deliver 1.15 lbs. N/1000 sq. ft.

This illustration demonstrates that, with the proper fertilizer and the proper injection equipment, you can duplicate a conventional dry application in less time and without using labor and heavy equipment. High capacity equipment can be "dialed down" for the more standard use of fertigation, which is light, frequent applications of plant food. However, low volume systems cannot exceed their maximum injection capacity—thus the injection rates are limited.

Mimicking slow-release—Typical applications of soluble fertilizer can be a continual problem on turfgrass, in that it fosters peaks and valleys of color and growth, encourages shallow roots, and develops weaker turf that is prone to disease and slow to recover. These problems increase with the solubility and quantity of fertilizer applied.

Soluble fertilizer products are relatively

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Injection delivery pump capacity ranges from fractions of a gallon per hour to several hundred gallons.

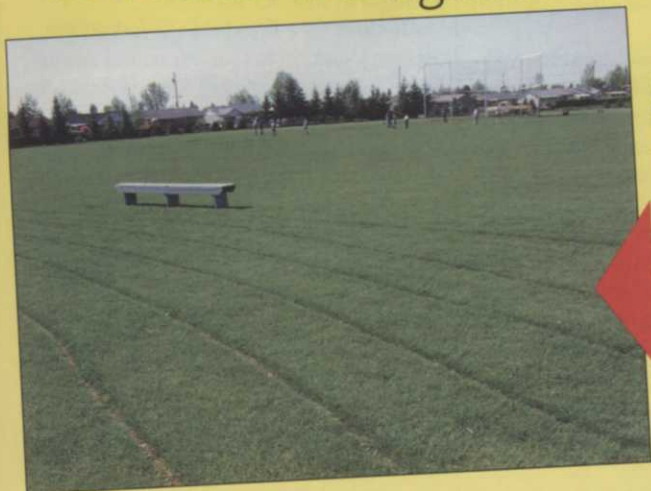
The History Of Manhattan

1626: Peter Minuit barter Manhattan Island for \$24 worth of beads, trinkets and cloth. A bargain.



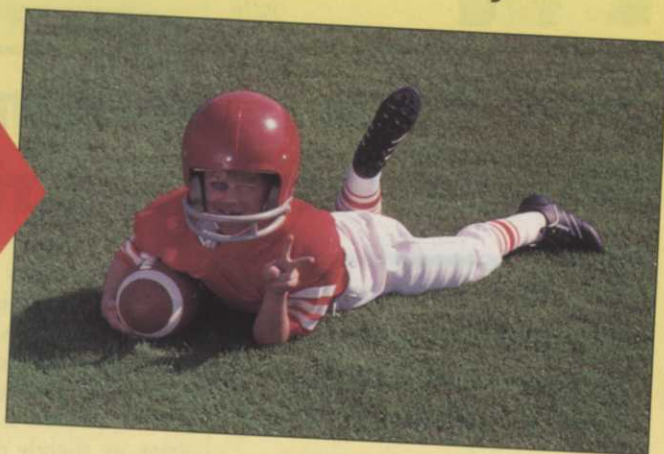
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FERTIGATION from page 38

inexpensive compared to sophisticated "slow release" products that are widely used and accepted. However, fertigation allows you to mimic the effects of expensive slow-release materials.

You can feed small amounts of liquid fertilizer during each irrigation cycle, or develop feeding regimens that routinely provide a cumulative balanced agronomic program. Being able to apply only enough fertilizer to feed the turfgrass for a few days gives you the ability to control color and growth very evenly and predictably.

Fertigation offers unique opportunities to meet the needs of turfgrass managers in the 1990s and beyond. Sound agronomic planning, a sufficient irrigation system, the proper choice of fertilizers, and a good injection system provide the right combination for optimum turfgrass performance.



—The author is agronomist/president of PlantStar, Inc., P.O. Box 304, Watkinsville, GA 30677. Phone number is (706) 769-9210.

'Micro-fertigation' opens application windows

■ The concept of "micro-fertigation" is a staple of the fertilization program of Don Parsons, superintendent at Old Ranch Country Club in Seal Beach, Calif.

"Micro-fertigation" is *not* the application of micro-nutrients through the irrigation system. It *is*, however, the ability to apply nitrogen fertilizer any time and in small amounts through the irrigation system.

"Most of us would not consider making an application of 16 bags of ammonium sulfate on a 120-acre golf course. It is not practical to run a tractor and spreader over the golf course to apply 16 bags of fertilizer." Fertigation, however, is uniquely suited to this task.

The advantage of fertigation to apply tiny amounts of nutrient is that the superintendent can "dial in" the growth and color that he or she needs. The reduced application rates also reduce the possibility of excessive growth, thatch and disease. And it reduces the potential for nitrate leaching.

Parsons suggests a total rate of about

0.07 lbs. of actual nitrogen per 1000 sq. ft. as a good rule of thumb when fertigating. "Let the plant use up this nitrogen before making another application," he says. "This technique should promote a strong plant with a deep root system."

Parsons fertigated 170 times in 1992 but just 140 times in 1993, due to changes in weather patterns.

If there is a drawback to fertigation, Parsons says, it is that grass and weeds grow in places that they were not growing before. "Many areas in the rough that were never fertilized regularly now grow very vigorously. Our tree growth is also significantly better," he says.

"Many people feel they cannot use fertigation because of poor sprinkler distribution," Parsons further notes. "Fertigation will not make a poor sprinkler system better, but don't back away from it just because of poor sprinkler distribution. Fix the problem and carry on."

Parsons firmly believes, however, that minute and frequent amounts of nitrogen on turf have great potential.

Seashore paspalum gets around water restrictions

Great for its salt tolerance, this sub-tropical grass does, however, have a problem resisting some major weeds.

■ Because of municipal restrictions on water for irrigation, many golf courses and recreational areas that are located near the ocean have turned to seashore paspalum grass.

Seashore paspalum is a very salt-tolerant grass that can be irrigated with water containing high salt levels. In fact, many turf managers irrigate the grass with brackish water, which is part seawater and part freshwater from ponds or pumped from wells located near the shore.

Seashore paspalum is a warm-season perennial grass native to tropical and sub-

tropical regions of North and South America. Because of its salt tolerance, it is often found on seacoasts and around brackish ponds and estuaries. Seashore paspalum spreads by rhizomes and stolons, and the stolons and leaves of the grass are slightly more coarse than those of common bermudagrass.

Paspalum is blue-green in color, and has a texture that is similar to common Kentucky bluegrass.

The salt tolerance of seashore paspalum is superior to even bermudagrass. In fact, on golf courses in south Texas and southern California, salinity levels are above 25 mmhos/cm, and seashore paspalum grows quite well, unlike bermudagrass, which dies out.

Seashore paspalum can also be found growing in brackish water with salinity levels above 4,000 ppm total salts.

As a turfgrass, seashore paspalum shows good tolerance to close mowing,

good wear tolerance and moderate shade and drought tolerance.











The cold tolerance of the grass is between that of bermudagrass and St. Augustinegrass, but it does not tolerate prolonged sub-freezing temperatures.

As a turfgrass, seashore paspalum shows good tolerance to close mowing, good wear tolerance and moderate shade and drought tolerance.

It is well suited to turf areas mowed at two inches or less, and can also be used in golf course roughs. Its quality improves as the mowing height is reduced and mowing frequency increased. Even at putting green heights of 1/4-inch, the grass is very dense. Seashore paspalum must be propagated from sprigs of sod. When sprigged at a rate of 200 bushels per acre, a complete cover could be expected in two to three months.

continued on page 42

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PASPALUM from page 40

Applications of nitrogen of at least 1 lb./1000 sq.ft. per month are needed during establishment.

After establishment, seashore paspalum needs 1/2 lb. N/1000 sq.ft. during the growing season to maintain good quality. However, high nitrogen fertilization during summer months produces excess growth and leads to scalping problems. Rooting characteristics of seashore paspalum are similar to those of bermudagrass.

The turf appears to have few disease problems, although it is susceptible to brown patch and leaf spot. However, weed control can be a problem (see sidebar).

Rooting characteristics of seashore paspalum are similar to those of bermudagrass.

Two weeds of primary concern to turf managers trying to establish seashore paspalum are crabgrass and goosegrass. Both noxious weeds are difficult to control and are prevalent in warm-season turf.

Crabgrass, a bunch grass, is the most common weed in lawns and professional turf areas. Goosegrass, which is often confused with crabgrass, is the single most prevalent weed in the southern U.S. It thrives on putting greens, compacted soil and areas with heavy foot traffic. To help control outbreaks of both types of weeds, deep, infrequent irrigation should be used.



Dr. Joe DeFrank of the University of Hawaii thinks herbicides labeled for seashore paspalum should be applied 12 days after applying stolons.

Controlling weeds in seashore paspalum

■ Dr. Joe DeFrank of the University of Hawaii has been searching for ways to control problem weeds in newly-established seashore paspalum turf.

"Until recently, there wasn't a pre-emergence herbicide labeled for newly-established seashore paspalum," he says. "So turf managers had to wait until the weeds came up and then try to mow the weeds down, take them out manually, or spot-treat them with a post-emergent. But all of these options are undesirable because of the high cost of labor input."

Through his research, DeFrank now recommends Ronstar (oxadiazon), which can be used soon after sprigging.

One of DeFrank's experiments looked at applying pre-emergents during a seashore paspalum hydro-sprigging operation. One part of the experiment featured a

herbicide application to the soil before putting stolons down, followed by a hydro-mulch cap. Another part featured the stolons being put down first, followed by incorporating the herbicides into a wood-fiber cap.

Since seashore paspalum is extremely sensitive to herbicides, the at-planting applications did not yield acceptable results. However, Ronstar was very effective when applied 12 days after planting with little or no injury to the turf. DeFrank believes that a one-pound rate would be a better choice than a two-pound rate because of seashore paspalum's unique sensitivity to herbicides.

Ronstar also has low water solubility with low likelihood of leaching into groundwater.

These trees can take what cities dish out

■ City trees have it rough.

Conditions in urban environments are hard on plant life, what with high pH, compacted sidewalk planters, carbon monoxide from vehicle traffic.

Here are some city-tough trees, courtesy of Dr. Nina Bassuk, of Cornell University, writing in "Shade Tree Notes."

Acer platanoides, Norway maple: good for Zone 4. Tolerant of salt and a wide range of soil conditions, including mod-

erately high pH. It tends to heave sidewalks so adequate rooting space is recommended.

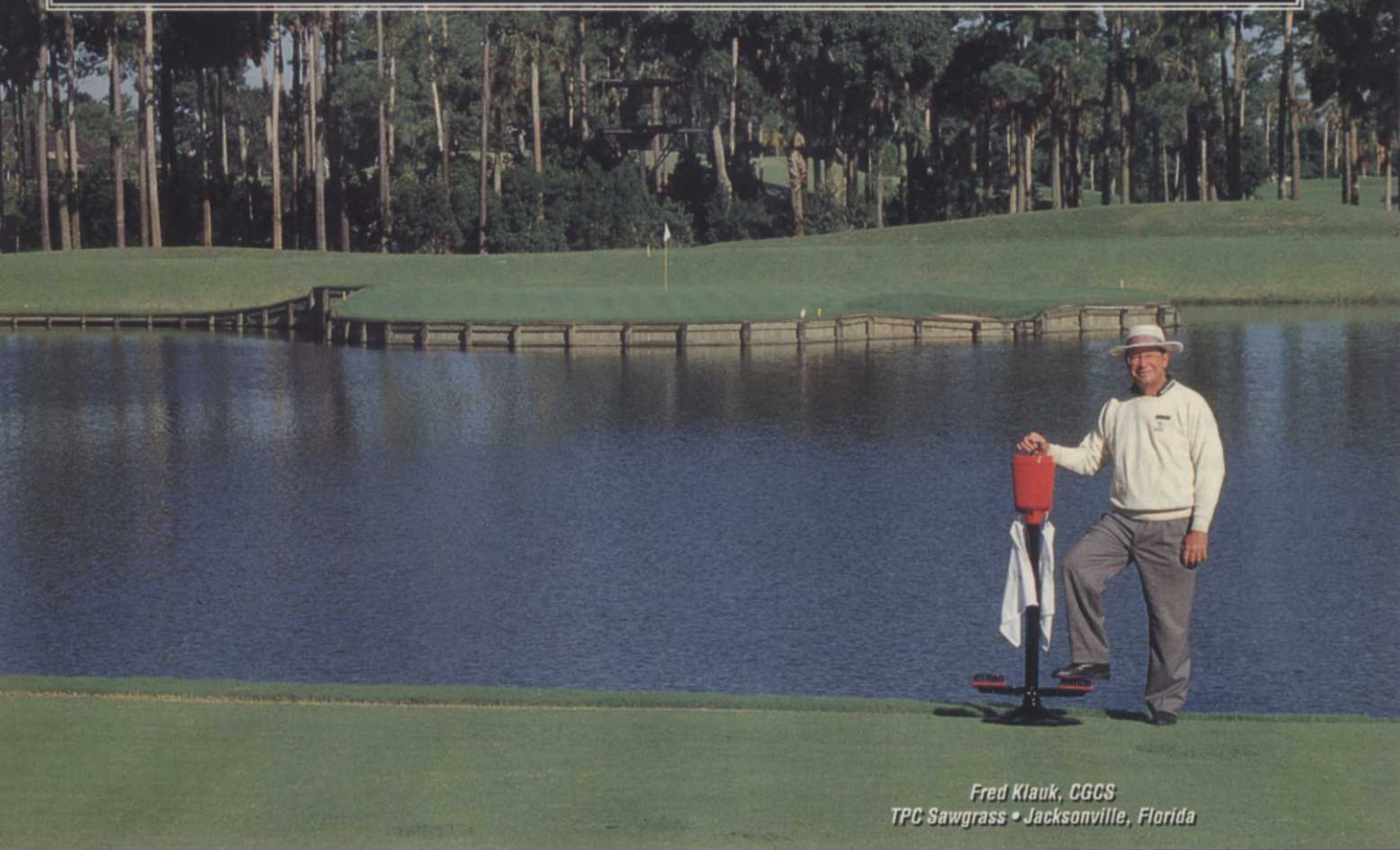
Acer rubrum, red maple: use in Zone 3. Acid, moist soils are required. Sensitive to salt and drought. Good fall color. Use with caution only in sites with little environmental stress.

Betula nigra, heritage river birch: use in Zone 4. Best on acid, moist soils, but adaptable to city conditions. Resistant to bronze birch borer.

Acer pseudoplatanus, sycamore maple: for Zone 5. Tolerant of wide soil pH. Very tolerant of soil or air-borne salt. Take care when planting next to parks or natural areas as the species naturalizes freely.

Fraxinus americana, white ash: Zone 4. Full sun, tolerates high pH soils, but needs well-drained soil. Ash decline or some insect problems may be a serious hazard. This tree has good fall color.

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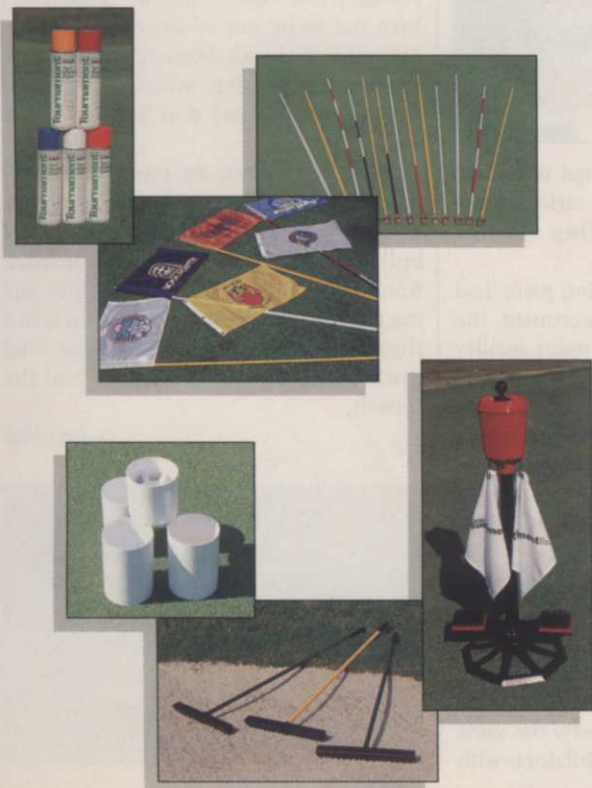
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GOLF 'SCAPING

Retrofitting for effluent irrigation

Though a test of patience, this process has its positive long-term gains in the amount you pay for water and in its environmental compatibility.

■ Mike Huck didn't fully appreciate how frustrating a golf course superintendent's life can become.

That was until he oversaw the retrofitting of an irrigation system to use reclaimed wastewater at Mission Viejo Country Club just south of Los Angeles. This, he readily admits, turned out to be a major undertaking, in spite of the fact that the course had used treated effluent previously. But when the local water reclamation plant closed down to upgrade its treatment capabilities, Mission Viejo had to switch to potable water for a while.

Huck had been hired as its 13th superintendent about a year before this all began happening.

"You start to wonder if it's all worth it just to grow, green healthy grass," he says half seriously.

Huck says that while his course was waiting for the reclamation plant to reopen and again supply it with treated wastewater, a host of new regulations had blossomed.

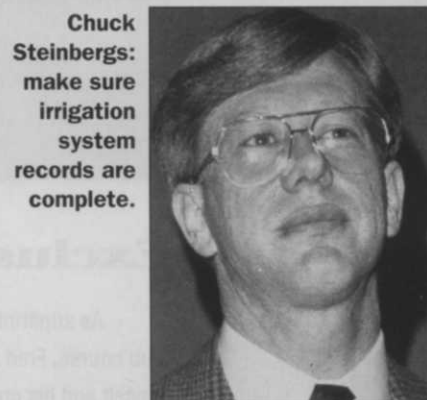
Adding to the frustration, the water reclamation (treatment) plant is located just across the street from the course!

"Our prior permit just wasn't good enough anymore," he says. What followed, in short order, was a seemingly endless scramble to fulfill regulations and inspections.

"When we got ready to ask for the reclaimed water, they wouldn't deliver it to us," says Huck. Not, at least, until the course satisfied every requirement, many of them directed at insuring that the



Mike Huck: says don't underestimate complications when retrofitting an irrigation system.



Chuck Steinbergs: make sure irrigation system records are complete.

course's potable and reclaimed water are separate. Regulations require strict failsafe measures to guarantee that they stay that way too.

Eventually Huck's irrigation plans had to be filed with the health department, the water district and the state water quality control board.

Chuck Steinbergs, an engineer with the Orange County (Calif.) Water District, in fact, concurs that retrofitting an irrigation system to use reclaimed water can be a lengthy process. It often takes anywhere from six months to a year, he says.

"Don't rush into this project because you'll have to live with it when it's done," he says.

His suggestions:

1) Confer with a retrofit design consultant. "You need someone who has gone through the process with regulators, with

the nuts and bolts of design, working with other golf course superintendents," he says.

2) Keep meticulous records concerning your irrigation system. "The fewer records we have, the more costly it is to do the retrofit, and the more guesswork there is," he says.

3) Bring health regulators into the process early. "It gives you the opportunity to negotiate with the regulators about how things can be mitigated," says Steinbergs.

"People here don't need too much convincing about the value of using recycled water, but nonetheless when you get down to an individual user who has economics and a budget to keep, we realize we have to work out something that both he and we can live with," adds Steinbergs.

As it turned out, the cost of reclaimed water, which jumped from \$200 to \$328 per acre-foot from 1992 to 1993, didn't turn out to be one of the more pressing concerns at Huck's Mission Viejo course. Using potable water, which isn't allowed anyway, would have cost \$500 per acre-foot.

Most headaches, he says, were unexpected. For instance, the course's irrigation storage pond had to be drained for a bulldozer to remove 3 1/2 feet of muck from its bottom. In the process Huck said the pond was deepened to 10 feet to hold a three-day charge of recycled water. That work added \$60,000 to the cost of the retrofit.

—Ron Hall

*More on
effluent irrigation,
page 46*



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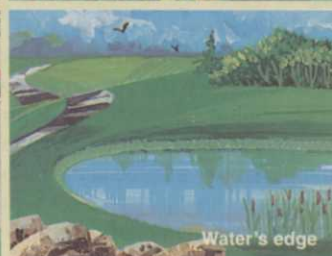
Around beds



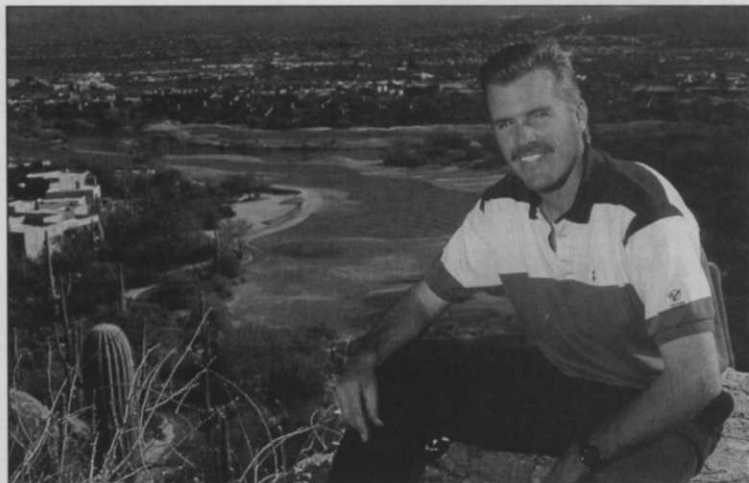
Monuments



Walls



Water's edge



Scott Miller, CGCS, Ventana Canyon, is satisfied with quality of irrigation water.

Reclaimed water makes gem sparkle

■ Scott Miller is one of the caretakers of an emerald in the mountains overlooking Tucson, Ariz.

He's superintendent of the Ventana Canyon Golf and Racquet Club's two golf courses which are irrigated solely with treated wastewater. This is not a requirement in Tucson. Nevertheless, more and more courses across the country are, like Ventana, irrigating with reclaimed water to stretch limited freshwater reserves, particularly finite groundwater supplies.

Actually neither of Ventana's courses are emerald-green year-round. The bermudagrass tees and fairways go dormant each fall: they turn brown. The bentgrass greens, however, remain green in any season in stark contrast to the surrounding desert.

The two 10-year-old, 18-hole courses split about 80,000 rounds annually, with the semi-private "Mountain" course receiving most play from October to May.

Miller, 33, a Chicago-area native and Texas A&M graduate, can't imagine keeping either course playable (never mind rated among the best resort courses in the nation) without an adequate supply of irrigation-quality water.

But recycled water comes with a price tag.

Miller says his water costs \$400 an acre-foot. By comparison, the costs for potable water in the Tucson area vary widely depending on whether you pump your own or receive it from a water plant at a premium price of \$900 per acre-foot.

(An acre-foot of water is about 325,000 gallons. This is enough to fill 19 average-

sized swimming pools. Flush 63,600 toilets. Supply the needs of a family of five for about one year.)

"In Tucson we have a very high quality wastewater," says Dr. Charles Mancino, of the University of Arizona, pointing to a relative lack of industrial contamination in the area. Also, in Tucson, the reclaimed water is small but significant amounts of nutrients like nitrogen and phosphorus are in it.

This is not the case everywhere. In fact, reclaimed water, which is often also known as recycled water, varies greatly in quality, cost and availability across the country.

—Ron Hall

Golf courses are water 'recyclers'

■ Tom Benefield, CGCS, says the 600-acre, 54-hole golf course complex he supervises provides a remarkable but virtually unrecognized service for his small corner of southeast Florida.

It helps recycle the area's public water supply.

"We're putting the community's wastewater back into the ground, recharging the local aquifer so everyone can use it," claims Benefield.

That's because turfgrass at the Ballen Island Country Club in Palm Beach County is irrigated with effluent water. Benefield's courses often receive and use four to five million gallons of effluent daily. It would otherwise be whisked out into the ocean or deposited in deep wells.

Even so, water utilities sometimes see waste water as a commodity, says Benefield.

Rather than risk political fallout by boosting rates to those who produce the

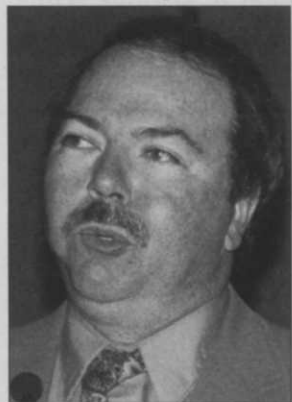
waste water, utilities charge those who reuse it. Prices vary greatly, even within Florida. By Southern California standards, however, effluent at Florida's high end price of even 60 cents per 1,000 gallons would seem to be a bargain.

This is, in part, a function of climate.

South Florida receiving its 50-plus inches of rain annually—more than three times the amount received in Southern California—seems an unlikely area for water shortages. But they occur. That's because most of this rain never reaches public water supplies. It cascades off tile roofs of homes. It gurgles over acres of concrete parking lots and pavement. Finally, it rushes into storm canals to be delivered to the ocean.

"We've lost large amounts of retention, detention and recharge areas to the urban environment. What once used to be large collection basins are now large concrete jungles," claims Benefield.

So, in August 1990 when the South Florida Water Management District (SFWMD) considered a rule requiring golf courses to irrigate with wastewater effluent or face 80 percent water reductions,



Benefield: Golf courses help recharge water supplies.

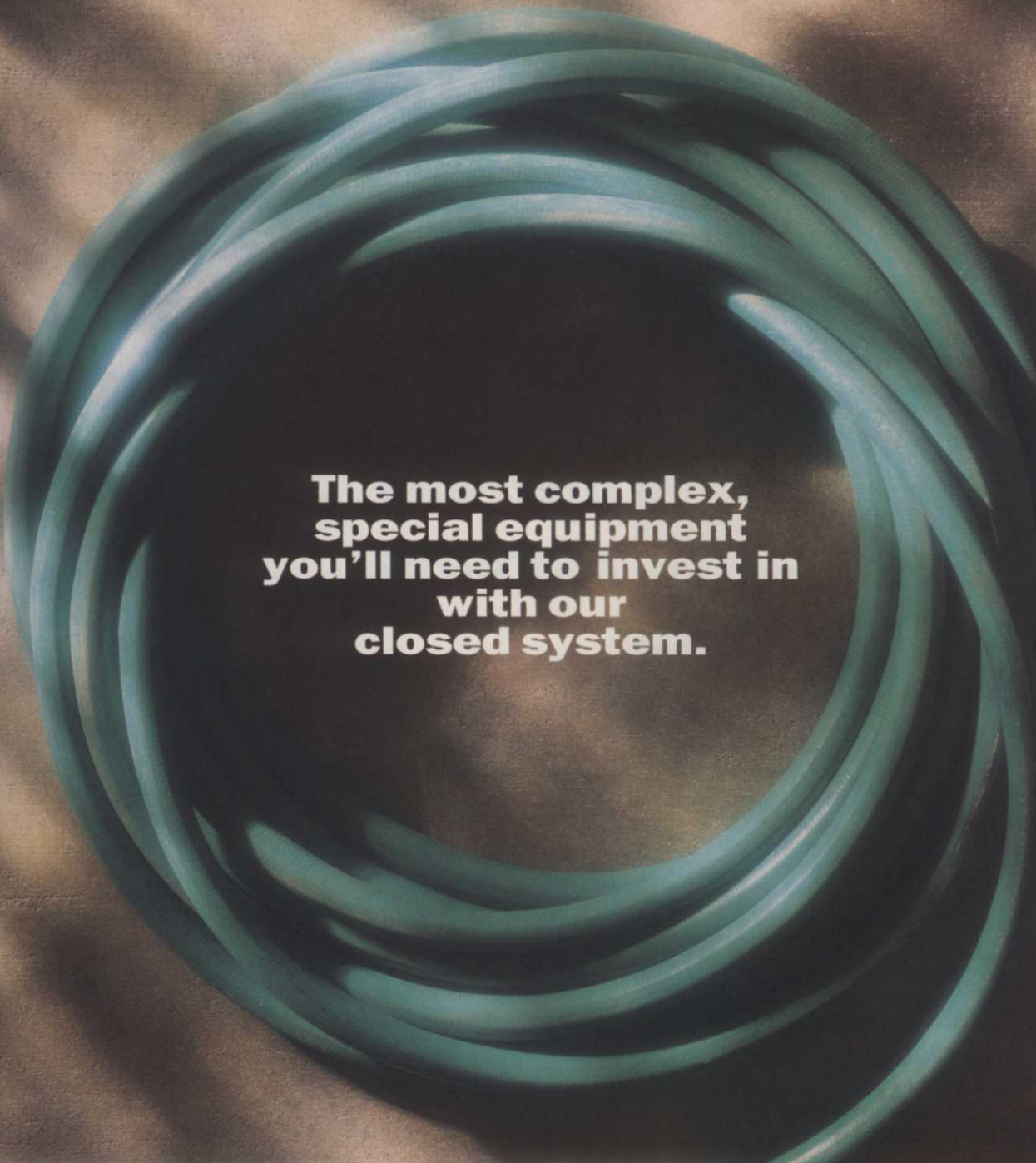
the Florida Golf Course Superintendent's Association (FGCSA) responded.

The result: Benefield ended up on the SFWMD Peer Review Committee, along with representatives from agriculture and industry.

On that committee, he's maintained that golf courses shouldn't shoulder all the responsibility and costs associated with the delivery and reuse of effluent.

"I think our price has already been paid," argues Benefield. "We offer, in south Florida alone, over a billion dollars worth of land to dispose of this material on our golf courses. We offer hundreds of millions of dollars of infrastructure, piping, irrigation heads, pumping facilities to dispose of this water."

—Ron Hall



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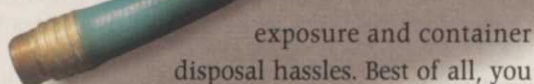
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**'The industry needs
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clients about their
outdoor living
spaces just like
building architects
tell them about in-
door living spaces.'**

—Gary Kinman

■ Last summer, on a whim, Gary Kinman bought a pony. It was a real miniature—tiny enough, he reckoned, to coax and shove into the family minivan and take home to the kids. Strawberry (the name Gary's two children later gave it) rode to the Kinman household with its wet muzzle poking over Gary's right shoulder.

The arrival of the pint-sized gray, with blond mane and tail, elicited the hoped-for response, delighted yelps from the kids and Gary's two, huge yellow dogs. Never mind that the minivan no longer has that new-car odor.

Sometimes impulsive. Usually outspoken. Never boring. Kinman, 36, with his

stocky, powerful build and square jaw, looks like a boxer. Or maybe a middle linebacker.

He's really a pushover, though. A bonafide softie.

When he claims that his Kinman & Associates regularly designs and builds residential landscapes costing \$250,000 and more, he can almost convince a listener that customers always get the better of him in the process. Shame on them.

"We have a reputation—which, I guess, isn't necessarily good—for being expensive," pleads Kinman. "We're not expensive. For the product we deliver, we're inexpensive—which I can prove by our

financial statement."

A handy market—Kinman's K&A is located in quaint Dublin, Ohio. It's a good town to be doing what Gary likes to do best, top-of-the-market residential landscape design and build.

Just outside of Dublin, which is itself just northwest of Columbus, is golfer Jack Nicklaus-built Muirfield Golf Course. It's a gem, and site of his annual Memorial Tournament. In fact, Nicklaus's new home will be going up nearby soon.

Kinman may or may not get the Nicklaus landscape. But it's the type of residential project that K&A has earned an enviable national reputation for designing and building: the big residential job.

"A small project for us is in the \$25,000 to \$30,000 range. But I think even that's a lot of money and we can do some really beautiful stuff with it," says Kinman. "Certainly we'd like to do more of that, but our problem as a company is that people in our market think, 'Oh, my gosh, Kinman & Associates, they're too expensive and they work on bigger projects.'"

Plant selection and installation. Patios. Walkways. Retaining walls. Decks. Swimming pools. K&A does it all, says Kinman. Or it'll find a top-notch sub-contractor that can.

"Actually, planting is one of the last things we usually do. There is so much more to the business than jamming a bunch of bushes next to a house. I think our industry pushes that too hard," says Kinman. He calls the process "super shrubbing."

"I think we (the industry) need to be putting in more beautiful, front sidewalks, designing home entries that work, installing stone walls that enhance properties. We've got to start telling our clients about their outdoor living spaces just like building architects tell them about indoor living spaces."

One job at a time—Kinman figures K&A has put in over \$30 million worth of

ELSEWHERE

**The benefits
of service,
page 50**

**LCO help their
injured friend,
page 52**

**Is 2,4-D next
Alar scenario?,
page 53**

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Project managers Sharon Halldren, foreground, and Julie Taggart see big projects to completion, from initial design to planting.

landscape projects. That's a lot for his small operation that stays so close to home. "I think I almost have enough callouses to prove it," he says opening his rough, workman's hands.

Gary insists size doesn't preoccupy him though. It never did, not even when he decided to start a landscape business almost 14 years ago. He was studying business and finance at Ohio State University then. "By the time I was a senior, I already knew that I wanted a company to put in

the best residential landscapes in the area," he says.

K&A, he insists, is doing just that, in large part, because K&A is a team effort, involving five project managers and supporting office and field crews—even Gary's wife Lori, who works the phones.

As soon as K&A gets a recommendation, Kinman builds a team to work with the client and building architect. Gary's always on the team, along with a project manager. He says he deals with the bigger

client picture, the concept, while the project managers do the actual designs and track construction details.

"I'm kind of associated with every job. I wish I wasn't as much," Kinman admits.

Everyone's busy—Actually, each of the five project managers (three men and two women) may have a dozen landscape projects bubbling at once. They guide each through a 22-step process. They can tell at a glance where each project stands because all are recorded on a huge, white board on the wall in front of their drawing boards.

"We're trying to develop a system where each job will have an on-site project manager as well as an in-house project manager," says Kinman. "Then, everything that we're doing on a project—from the beginning design to the end of the job—is being looked at by two people."

When operational, Kinman thinks this system will meet his clients needs even more precisely.

Then, he insists, his clients will get an even bigger bargain.

"The money they spend with us is like money they invest and get high interest on," he claims.

—Ron Hall

Sell the benefits of service

To win commercial accounts where there are in-house crews, stress cost, efficiency and expertise.

■ Laflamme Services of Bridgeport, Conn. has found a way to convince commercial prospects to switch from in-house crews to an outside landscape contractor. Judith Guido, director of business development and marketing for the 24-year-old company, says persistence has paid off—in the form of new commercial accounts eager to sub out the work. And that's because Laflamme knows how to sell the benefits of what Guido calls "outsourcing." And it's

not a very hard sell when it's done right. Just let the numbers do the talking.

Laflamme's message to mid- and large-sized commercial prospects is simple: it's more cost effective and easier to contract out than to subsidize an in-house crew.

Recent new clients include headquarters for Clairol, Champion Sporting Goods and Aetna Insurance.

Guido says area competitors try to sell the idea, but lose something in the translation.

SHADES of GREEN
AN INFORMATION BULLETIN BY LAFLAMME SERVICES, INC.
AUGUST 1993
VOLUME 3 / NUMBER 6
Eyes On The Landscape

New England, if you don't care for the weather, wait five minutes and it'll change. Well, Mr. Twain, we could sure use a bit of that change right about now. The July stats are in and we received less than two inches of rain for the month, leaving the 1993 season a full six inches short of the norm. This puts us in a bit of a pickle, horticulturally speaking, for the already tough growing month of August. The water company serving the Westchester area has placed a ban on all non-essential water use and

At this time, reducing the use of fertilizers and pesticides needs consideration. The intent is to slow the growth of the plant reducing its need for water and reducing the stress caused by constant mowing or pruning. Furthermore, the application of certain pesticides during dry spells can cause serious damage to the plants they were meant to save. Adjust mowing heights to provide some needed shade to the crown of the plant and the soil surface itself.

overseeders, that allow new seed to be introduced into the soil without radically reworking it. (Many of these are available through rental centers.) If the season takes its toll on your lawn, now is the time to reseed with drought tolerant, disease resistant varieties. Some of the new rye grasses are ideal for this application and require less fertilizer per season to keep them looking green and healthy, an added bonus.

"There are people who have contacted these companies, but nobody told them *why* it would be better (to contract out)," she says.

Laflamme gives the prospect a list of 26 reasons why it makes sense to contract out (see sidebar). Closing a sale was never so easy!

Most of Laflamme's newly-contracted accounts buy all the important landscape services: landscaping, lawn care, flower planting, waste management and snow removal.

Reminders help—As an extra way of staying in touch, the company's single



Bush Hog's New 90-Inch Air Tunnel Mower BUILT FOR THE REAL WORLD

Most finishing mowers aren't designed, or built, for the real world you work in. They just trim grass.

Bush Hog's new 90-inch Air Tunnel solves the problem. It's designed and built to quickly bring a finished look to large acreage at parks, commercial and municipal sites, airports and other locations where appearance is important. And it's designed and built to handle large volumes of material and also enables you to cut grass in early morning dew.

This 90-inch air tunnel mower features a strong Bush Hog® designed gearbox to provide reliability and efficiency to commercial operators. It features plenty of room and air volume under the deck to lift grass and weeds, cut them and discharge the clippings without streaking.

The ATH-900 completes the Bush Hog air tunnel line with 60-, 72- and 90-inch wide models, all designed and built for the real world. It's part of Bush Hog's full-time commitment to meeting modern support line equipment needs with 17 new products.

Choose the finishing mowers designed and built for the real world. See the new 90-inch, 72-inch or 60-inch wide air tunnel mowers from Bush Hog at your Bush Hog dealer or write for free literature.



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page newsletter, "Shades of Green," goes to all customers, all past customers and any prospective customers. The reasoning is simple. Past customers may someday want another look at Laflamme, and the newsletter keeps them up on company progress. Current customers are impressed by the extra attention, and prospective customers are just that—prospective customers.

It's how they got the Clairol account.

"We had been sending the newsletter (to Clairol) every month," says Guido. "They never forgot about Laflamme."

A short time later, Laflamme had a large maintenance contract in hand. The Clairol buyer credited the newsletter and Laflamme's willingness to stay in touch.

"Shades of Green," is a cinch to produce, and even though it's only one page long, they fit in a lot of copy by going with a smaller type size.

The newsletter has been spun off into radio and television advice programs, starring company president Ed Laflamme.

As a last word, every newsletter has a section called "Welcome Aboard" which announces new or renewing clients.

Simple, but it works.

—Terry McIver

Why sub it?

1) Employee productivity. Usually, in-house crews are not as productive as contract labor because contracted labor crews are not distracted by other jobs. In-house forces sometimes become tradition-bound. They want to stick to a comfortable routine and resist program changes.

2) Inventory. It's eliminated, including materials, parts, tools, equipment and operating costs. That's money to invest elsewhere.

3) Storage concerns are eliminated.

4) Supervision is provided by the contractor. One man reports to the business owner or plant manager on a weekly or monthly basis.

5) Labor concerns—hiring, firing, reviewing, scheduling, and seasonal ups and downs—belong to the contractor.

6) OSHA compliance. Judith Guido of Laflamme Services says one complaint to OSHA by an in-house employee could result in a complete investigation in which all facilities are inspected. Fines, as a result of such visits, can be high. A competent contractor meets all of the OSHA guidelines and therefore protects himself and the client. For example: If a gas can isn't clearly labeled "Gasoline," a \$2100 fine could be levied on the business. Why not let the contractor carry the ball?

7) Overtime availability. Not always so easy in-house. Contractors have the benefit of a larger labor force.

8) Liability. Direct liability for an accident, chemical spill, injury or any of the other potential accidents will fall directly on the contractor.

9) Insurance costs. The contractor has his liability spread over more dollars and accounts. Therefore, the contractor can better absorb a serious injury/accident.

10) Innovation. Many new ideas—like computer-aided landscape designs—can be generated at no cost to the owner. With a "constant improvement program," money can be spent at the highest visibility areas.

—T.M.

Iowa LCOs chip in for hurt friend

It took Doug Tyrrell 10 years to build a lawn care company, and it almost ended in an instant on July 10th, 1993.

■ There's a place where people still know how to help each other. It's just about smack in the middle of the country. It's called Iowa.

Doug Tyrrell knows it as home.

Belmond, pop. 2500, in fact, is Tyrrell's home, which isn't too close to anything other than a handful of equally small north-central Iowa towns. This has allowed Tyrrell to build up a thriving little lawn care company over the past 10 years. "These towns are too small for the big guys to even think about," says Doug.

When Tyrrell starts talking about the area and his small-town customers, there's a smile in his voice. The rest of him doesn't feel too much like smiling though. That's because Tyrrell, owner of Tyrrell Lawn Care, and his wife Marilyn got banged up pretty bad this past July 10. They were riding Doug's custom soft-tail Harley-Davidson when it crashed into the front of a car near Columbus, Neb. Ironically, It was their 20th wedding

anniversary. They were on their way to a motorcycle tour of the Rocky Mountains.

"There was so much traffic, I didn't even know there was a corner there; I didn't see the guy sitting at the corner and he didn't see me," he tells LANDSCAPE MANAGEMENT.

Tyrrell, who broke just about every bone in his left leg (except for his knee) and lost part of his foot in the accident, figures the cycle was traveling about 40



Daryle Johnson of All American Turf Beauty, Van Meter; Shawn Edwards of Lawn of Leisure, Ankeny; and Les Wilshuson of Mike's Lawn Service, Storm Lake, were lauded by PLCAA for assisting Doug Tyrrell, Tyrrell Lawn Care. Also thanked was Myron Groat of ABC Lawn Care, Fort Dodge.

LM GRAPEVINE

mph on impact. Marilyn broke an ankle. She's back to work as an x-ray technician, but Doug's still disabled with a full-leg cast. He's probably facing more surgery, and won't be mobile until June or July 1994.

This is finally the part where some good things finally start happening for the Doug Tyrrells.

A few of days after the accident, at the Iowa State Turfgrass Field Day, Mona Bond of the Iowa Professional Lawn Care Association (IPLCA) told other lawn pros about the mishap. Pretty soon offers to help started coming in, says Doug, a founding member.

"Three companies donated a truck, a man and product, and came up here and did my mid-summer applications," he says. "In fact, I had calls from people from four hours away asking if they can help."

Then, in the fall, another operator sent three trucks, applicators and equipment and helped complete Doug's season for him.

Marilyn and college-age daughter Sharon did all they could to keep the business going, too. In fact, Sharon mowed until she had to return to nursing school in Des Moines. Then Doug's father helped out.

Tyrrell will not be able to do much lawn work starting the 1994 season, although he hopes to be off crutches sometime in March. But fellow lawn care operators—even competitors—keep offering support.

"I've had several operators tell me to figure out what we need to do and they'll help us figure out how to do it," he says. "Everybody's been a great help."

As for himself?

He's hoping to be able to work again early this summer. "Cranking out a few lawns is going to be pretty good therapy," says Doug.

He also says he's considering becoming a motorcycle safety instructor.

—Ron Hall

NEXT MONTH:

**Early-season
turf fertilization**

**LM Reports
on dethatchers**

The artificial turf in Philadelphia Eagles' Veterans Stadium is "unsafe," says turf consultant **George Toma**. According to an item in *USA Today* that was brought to **LM's** attention, Eagles owner Norman Braman asked Toma to take a look at conditions on the five-year-old turf. Toma said the fake field had been neglected. "There is so much dirt on the field, it makes it slippery and hard," said the Super Bowl turf expert. "There are ridges near the baseball sliding zones and football end zones." Recreation Commissioner Michael DiBernardinis plans to ask the city for \$1.6 million for new turf in 1995. 1995?!

The turf industry received sad news with the death of **Howard E. Kaerwer** on Nov. 10th. Kaerwer, 73, was a longtime contributing writer to **LM** and an excellent resource for its editorial staff. Northrup-King's retired director of turf research and development won the Distinguished Service Award from the GCSAA in 1988, and was named 1993 Man of the Year by the Minnesota Golf Course Superintendents Association. His breeding efforts yielded NK100, NK200, Goalie, Delray and Rugby. Memorials to the University of Minnesota's Landscape Arboretum Foundation are suggested.

Will 2,4-D become the Alar of the Clinton administration? "There's a damn good chance that if there's one product they go after, this will be the one," **LM** hears. The Administration may view the herbicide's continued use as a test case, an opportunity "to humiliate" a pesticide, and to placate anti-pesticide factions. More than 300 turf managers heard the prediction at the recent Ohio Turfgrass Conference.

A very determined lawn/landscaper has finally returned to the industry after a serious bout with cancer. **Vincent J. Acierno** tells **LM**, "I have fought my way through illness and recession." Acierno, owner of Environmental Maintenance Services, Staten Island, N.Y., twice had radical surgery to remove 30 tumors. After three years of chemotherapy treatments, Acierno can now market three of his business operation manuals and a proprietary computer program. If you're interested, see this month's classified ads.

Mark Light Stadium is another high-profile baseball field converting from synthetic turf to natural grass. **LM** hears through McGovern Construction that Light Stadium, home of the University of Miami Hurricanes, will have a sand-based field, under-drainage, automated irrigation and Bermuda 419 turf. McGovern Construction also built seven similar fields in Fort Myers, Fla., spring home of the Boston Red Sox.

Got an item for "LM Grapevine"? Phone us at (216) 826-2830, 8:30 a.m. to 5 p.m. EST, M-F.

In the South, where weeds are a problem most of the year, you don't get much of a break from using



Surflan is very mild on all warm season grasses. When used properly on established turf, university studies show it doesn't harm root systems. So Southern turf stays strong and healthy.

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tion flexibility you need to control 50 weeds including goosegrass, crabgrass and *Poa annua*. The season-long residual of Surflan lets you take care of these problem grassy weeds and troublesome broadleaf weeds, making Surflan a very cost-

People use a herbicides. Mild usually

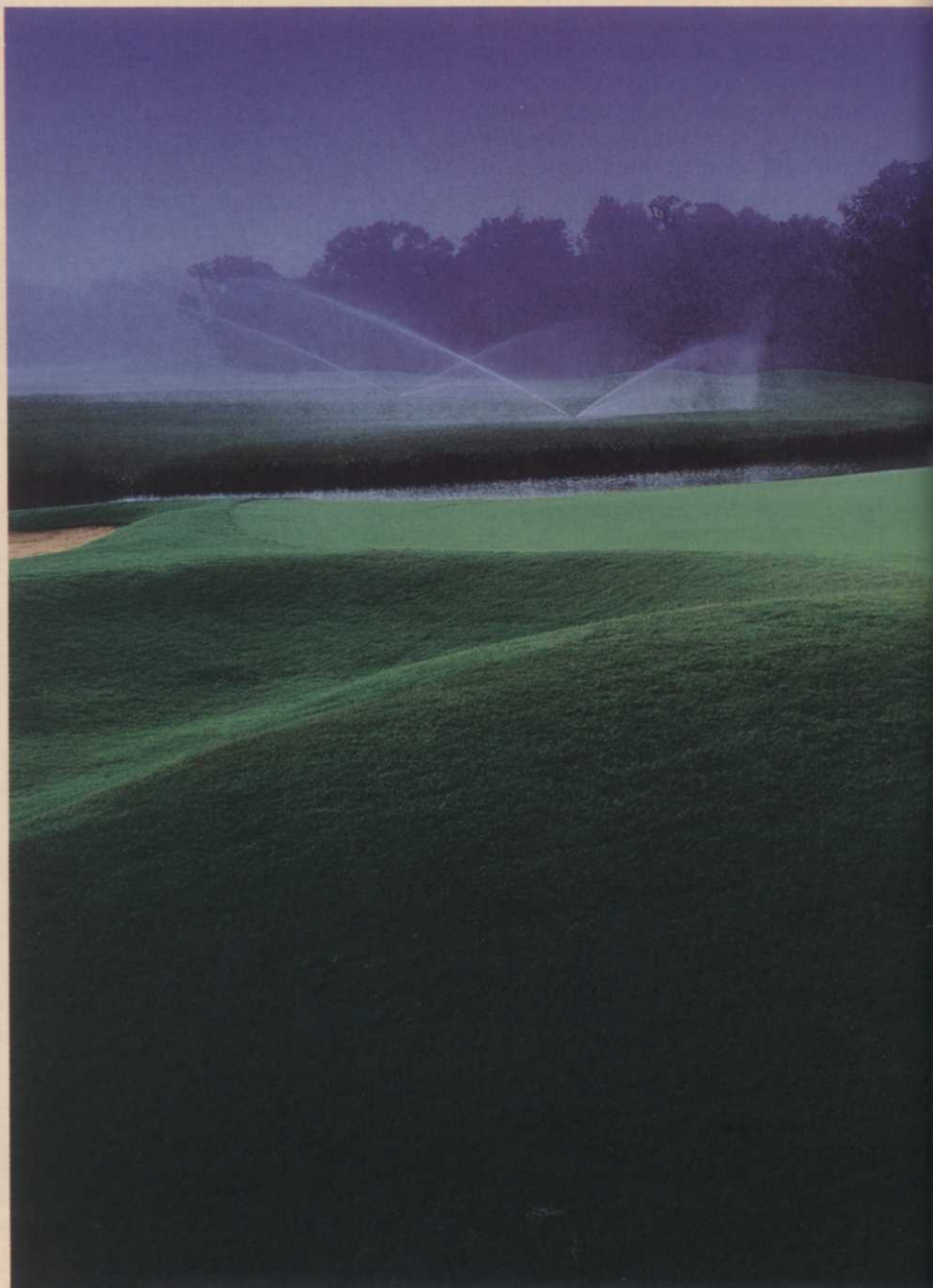
herbicides. So the milder your herbicide is to turfgrass, off-target plants and the environment, the better off you are. That's why you should seriously consider Surflan* herbicide for your weed control program.



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"I like to keep things very neat. I like nice, crisp edges and definition to make it pleasing for the golfer. In the two years I've been here, I've eliminated about 75% of the weed problem. I've always used Surflan because I can depend on it. Control is excellent. Cost is comparable to Barricade or Lesco's Pre-M. If it works good, why change?"

Michael J. Swinson, Superintendent
Cypress Run Country Club
Tarpon Springs, Florida



effective product in your weed control program.

Surflan is also very gentle on off-target plants. In fact, it

Surflan stays where you put it. Even in heavy rainfall, it resists leaching into groundwater.



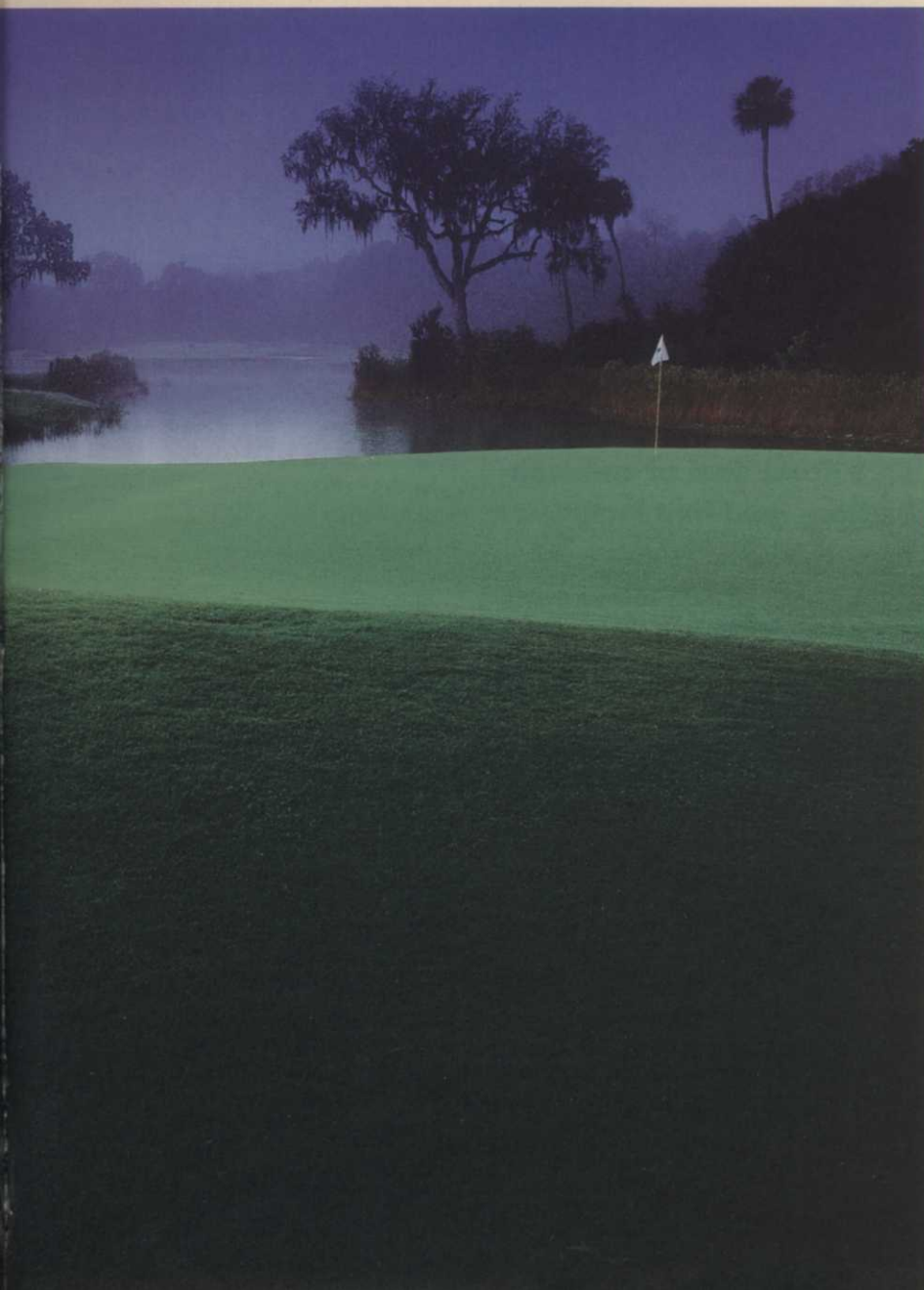
can be sprayed over the top of delicate ornamentals. So there's virtually no risk to nearby shrubbery, trees or flowers. Surflan is available as a sprayable and on fertilizer. If you prefer a granular form, there's XL*

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HOT TOPICS

Georgia executive chosen new director of GCSAA

**Chief financial officer,
chief operations officer,
education manager for
conference/certification
are also named.**

LAWRENCE, Kans.—Steve Mona is the new executive director/chief operating officer for the Golf Course Superintendents Association of America.

Mona, 36, has been executive director of the Georgia State Golf Association since 1983.

He visited GCSAA headquarters here on Dec. 6th.

"My first impression was that the quality of the GCSAA staff is remarkable," Mona tells *LANDSCAPE MANAGEMENT*.

He says the first order of business is establishing completely open lines of communication among the staff. From there, "our second focus is to really turn the axis of direction toward the membership," he says. "What's in it for the members?" is going to be the first question that will be asked of every project. Members give the staff the license to exist."

A strategic planning session is another immediate order of business. An intensive three-day session, which has yet to be scheduled, will include the GCSAA Board of Directors and key staff members. Short- and long-range goals will be discussed and set.

"Steve Mona's experience has given him the kind of knowledge and perspective essential in guiding the GCSAA to its next level of success," says current President



**'Emphasis is going to be
on a great deal of commun-
ication—and that includes
myself.'**

—Steve Mona

Randy Nichols, who also hails from Georgia. "The fact that his background has been focused within the world of golf associations is clearly a big plus for us.

"He brings to our top executive's position an established familiarity with the game's key organizations, an outstanding record as a leader, and the attitude of a genuine 'people person.' We anticipate continued success as we move ahead."

Mona's experience includes stints as tournament director for the Northern

California Golf Association and assistant manager of press relations for the U.S.G.A. He was also president of the International Association of Golf Administrators, and a director of the National Golf Foundation.

Mona was to begin work at the GCSAA headquarters here early this month, at exactly the same time that the new chief operations officer, Joe O'Brien, begins.

O'Brien, 48, comes to the GCSAA from the presidency of the American Hotel Foundation. His other association experience includes 17 years in senior management with the Professional Golfers of America (PGA). He has also been senior business developer for Marriott Golf.

Mona believes O'Brien's involvement in the golf industry will perfectly complement his own.

Mona replaces John Schilling, who resigned last year to start his own company, St. Andrews Golf. The position of chief operations officer is a new one.

In two related moves, the GCSAA named a chief financial officer and promoted one of its employees to education manager for conference and certification.

Julian Arredondo, former vice president and CFO of Midwest Titan Construction in Olathe, Kans. was named GCSAA CFO. Arredondo, 35, is a graduate of Rockhurst College.

And Rebecca Powell Clayton earned the promotion to education manager, conference/certification from education coordinator, special projects. She will develop and supervise the association's certification program and all educational programs at the annual GCSAA conference and show.

—Jerry Roche

ELSEWHERE

**Home study course
for turf managers,
page 58**

**New rules for
applying 2,4-D,
page 58**

**Laws could halt
power equipment,
page 58**

**Many, many events
slated this month,
page 59**

Here's proof that Typar Pro Landscape Fabric is easier to install.



We cut this piece of Typar® Pro Landscape Fabric to show what you can't do with the others.

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look healthy as well as handsome.

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REEMAY

2,4-D label may change applications

WASHINGTON—If the federal Environmental Protection Agency re-registers the herbicide 2,4-D, its label will probably include practices that will reduce applicator exposure.

According to information from the 2,4-D Hotline, here are specific label requirements for turf applications:

- Mixers, loaders and applicators must wear long-sleeved shirt, long pants, socks and shoes.

- Users of turf liquid products with "warning" or "danger" signal words must also wear eye protection.

- Professional applicators of turf liquid amine products must also wear chemical-resistant gloves, except when applying to golf courses. Other applicators of turf liquid amine products must wear rubber gloves.

- Full-yard sprayings (broadcast applications) will be limited to two per site per year.

- After using the product in liquid form, rinse gloves before removing, remove clothing and launder separately from other clothing before re-use. Promptly and thoroughly wash hands and exposed skin with soap and water. Remove saturated clothing as soon as possible and shower.

- After using the product in granular form, remove clothing and launder separately from other clothing before re-use, and promptly and thoroughly wash hands and exposed skin with soap and water.

- Do not allow people or pets on treated area during application. Do not enter treated areas until the spray has dried or dust has settled.

- Persons engaged in open pouring of 2,4-D products packaged in containers of more than one gallon but less than five gallons must also wear coveralls or a chemical-resistant apron.

- A mechanical system (probe-and-pump) must be used for transferring the contents of containers of five gallons or more. If the contents of a non-refillable pesticide container are emptied, the probe must be rinsed before removal.

There are more specifications. For further information, contact the 2,4-D Hotline: (800) 345-5109.



Turf made easy

LM readers have been clamoring for more information on home study courses since Dr. Bal Rao first mentioned them in his "Ask the Expert" column last May. Here's news of the first such course we know of—courtesy of the University of Georgia and the Professional Lawn Care Association of America.



You want to study turf at home? Here's what you're looking for

ATHENS, Ga.—The University of Georgia now offers an independent (home) study course for persons working in turfgrass management.

"Principles of Turfgrass Management" is organized around 14 chapters and is presented in an easy-to-read, illustrated study guide written by Dr. Keith Karnok.

Course material covers turfgrass identification, adaptation and use; soils; identifying and controlling weeds, insects and diseases; and much more.

The course is available for \$275. Upon enrollment, the University of Georgia will mail participants all materials, provide

instructions, and coordinate the program of study.

Successful completion of the course will earn participants the designation "Certified Turfgrass Professional" by the Professional Lawn Care Association of America (PLCAA). Persons achieving certification will receive a handsome plaque, a cloth certification patch, and a wallet-sized certification card.

For more information, or to register, phone (706) 542-1756 and ask for "Principles of Turfgrass Management." PLCAA members should call (800) 458-3466 for member rates.

Washington, D.C. tries to outlaw lawn equipment

WASHINGTON—Ten professional landscape organizations have joined in the opposition to a sweeping set of restrictions proposed by the Metropolitan Washington Air Quality Committee. The restrictions would cause major disruptions of commercial and residential landscaping operations.

The proposed plan would reportedly help Washington meet the EPA's mandate to reduce ozone emissions by 15 percent:

- Prohibit the use of common lawn and garden equipment on so-called

"ozone-alert" days. This would include lawn mowers, commercial turf equipment, wood splitters and shredders.

- Mandate the replacement of the above equipment with new, cleaner equipment.

- Institute a taxpayer-financed education program costing approximately \$1 million.

"It's critical that the industry deals effectively with these federal Clean Air Act directives here in the D.C. area," says AAN government affairs director Ben Bolusky. "Many metropolitan regions across the U.S. will need to deal with the ozone issue, and they'll look to see how the nation's capital has handled commercial landscape operations. We can't afford to have the excessive regulations proposed here

become a precedent for the rest of the country."

Some other organizations involved: AAN, ALCA, PLCAA, NAA and OPEL.

Corrections

■ Readers: please note these corrections to articles and advertisements which appeared in our November issue:

● An advertisement for Dimension on pages 36-37 should not have been mailed to our New York and California readers, since it is not registered in those states. If you live in either of those states, please do not attempt to purchase or use the product.

● In the pie chart on page 26, soil composition for poorly drained soil should read: 45% minerals, 5% air, 45% water, 5% organic. Our apologies to Dr. Charles Darrah III, who authored the article, and to any readers inconvenienced.

● In the article on pages 14-15 about spreaders, **Turfco Manufacturing** was inadvertently omitted. Turfco's address and phone number are: 1655 101st Ave. NE, Blaine, MN 55434; (612) 785-1000. We apologize for the omission.

GREEN INDUSTRY EVENTS

JANUARY

16-18: Empire State Tree Conference, Holiday Inn, Suffern, N.Y. Phone: (518) 783-1322.

17-18: Arkansas Turfgrass Conference & Trade Show, Arkansas State Convention Center. Phone: Angie McSwain, (501) 663-8810.

17-21: Golf Course Maintenance Short Course, Columbus, Ohio. Phone: Barbara Bleotscher, (614) 292-7457.

18-19: Louisiana Turfgrass Assn. Conference & Trade Show, LSU, Baton Rouge. Phone: Dr. Tom Koske, (504) 388-2222.

18-20: Mid-America Green Industry Convention, Hilton Plaza Inn, Kansas City, Mo. Phone: Olivia Golden, (816) 765-7616.

18-20: Michigan Turfgrass Conference, Holiday Inn, Lansing, Mich. Phone: Kay Patrick, (517) 321-1660.

19: Landscape Contractors, Turfgrass

Management and Grounds Maintenance Conference & Trade Show, Columbia, S.C. Phone: (803) 656-2459.

19: Professional Turf and Landscape Conference, Westchester County (N.Y.) Center. Phone: (914) 636-2875.

19-22: Tropical Plant Industry Exhibition (TPIE), Ft. Lauderdale/Broward County Convention Center. Phone: FNCA, (407) 345-8137.

19-20: California Assn. of Nurserymen Legislative Days, Sacramento. Phone: Bob Falconer, (800) 748-6214.

20-22: American Sod Producers Assn. Midwinter Conference, Scottsdale, Ariz. Phone: ASPA, (708) 705-9898.

20-22: Mid-America Horticultural Trade Show, Chicago. Phone: (708) 526-2010.

20-22: Idaho Horticultural Convention & Trade Show, Boise. Phone: (800) 462-4769.

20-22: Tropical Plant Industry Exhibition, Ft. Lauderdale, Fla. Phone: TPIE, (407) 345-8137.

21: Connecticut Tree Protective Assn. annual meeting, Plantsville, Conn. Phone: *to page 60*

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Cross-Fire™ Premium Trimmer Line from Echo.
The shape of things to come.

Not your ordinary line, Cross-Fire's™ eight cutting edges shear rather than tear grass. That helps reduce the browning of grass tips for a more professional look. Cutting is easier and faster, too, even in long, thick grass.

Made from a specially designed premium copolymer, Cross-Fire™ has excellent flexibility and suppleness, plus exceptional split and tip wear resistance for longer life.

Cross section of line shows the eight cutting surfaces that shear rather than tear grass.

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For the Echo dealer near you, call 1-800-432-ECHO (3246). Or write: Echo Incorporated, 400 Oakwood Road, Lake Zurich, IL 60047.

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EVENTS from page 59

CTPA, (203) 257-8971.

21-22: National Tropical Foliage Short Course, Ft. Lauderdale, Fla. Phone: FNCA, (407) 345-8137.

23-26: ALCA Executive Forum, Waikoloa, Hawaii. Phone: Associated Landscape Contractors of America, (800) 395-2522.

24-26: Iowa Turfgrass Conference and Trade Show, Des Moines Convention Center. Phone: (515) 294-1439.

24-27: Professional Horticulture Conference of Virginia, Virginia Beach. Phone: Polly Carden, (804) 523-4734.

25-Feb. 10: Short Course in Horticulture, Los Angeles (Calif.) Arboretum, Sequoia Athletic Club (Buena Park, Calif.), Radisson Hotel (San Bernardino, Calif.). Phone: Roberta Bybee, (909) 387-2184.

26: Iowa Sports Turf Managers Assn. Annual Meeting, Des Moines Convention Center. Phone: Gary Peterson, (515) 791-0765.

26: Poinsettia Seminar, Orlando, Fla. Phone: FNCA, (407) 345-8137.

26-28: Wyoming Groundskeepers and

Growers Assn. Conference & Trade Show, Casper Events Center. Phone: Tammy Young, (307) 637-7060.

28-29: Commercial Lawn Care Equipment Exhibition, Jacksonville (Fla.) Agricultural Grounds. Phone: Professional Landscape Services Assn., (904) 778-9632.

31-Feb. 1: Grounds Maintenance Seminar, Las Palmas Hotel, Orlando, Fla. Phone: Floyd Perry, (800) 227-9381.

31-Feb. 4: Turfgrass Ecology and Management Short Course, Blacksburg, Va. Phone: (703) 231-5183.

31-Feb. 7: International Golf Course Conference & Trade Show, Dallas, Texas. Phone: GCSAA, (913) 832-4480. or (800) 472-7878.

FEBRUARY

3: Turf Management Seminar for Lawn Care Operators, Holy Cross College, Worcester, Mass. Phone: Mary Owen, (508) 892-0382 or Karen Connelly, (508) 287-0127.

3-6: AAN Management Clinic, Louisville, Ky. Phone: American Association of Nurserymen, (202) 789-2900.

6-8: Fertilizer Institute Annual Meeting, J.W. Marriott, Washington, D.C. Phone: (202) 675-8250.

8-11: Louisiana State University Turf School, Baton Rouge, La. Phone: Dr. Dennis Shepard, (504) 388-2158.

8-12: NAA Annual Meeting & Management Conference, Waikoloa, Hawaii. Phone: National Arborist Association, (800) 733-2622.

9-10: Garden State Nursery & Landscape Conference & Trade Show, Garden State Exhibit Center, Somerset, N.J. Phone: (609) 291-7070.

10: Estimating Management & Principles, Hinds Community College, Raymond, Ala. Phone: Martha G. Hill, (601) 857-3290.

10-11: Northern California Landscape Expo, Santa Clara Convention Center. Phone: Ginger Nunes, (510) 490-6282.

10-11: Ohio State Lawn Care Short Course, Columbus. Phone: Barbara Bloetscher, (614) 292-7457.

14-16: Pennsylvania Nurserymen and Allied Industries Conference, Hershey, Pa. Phone: PNA, (717) 238-1673.

ON PRICING...The Associated Landscape Contractors of America has released "Pricing," a how-to primer that walks landscapers through each of the elements of pricing what you sell. Included: valid pricing methods including markup of direct costs; putting together an estimating system; and making a proposal that sells. Author is Frank Ross of Ross-Payne Associates, Barrington, Ill. Cost is \$30 for ALCA members, \$50 for non-members. To order, phone (800) 395-2522 or (703) 620-6363.

SPORTS TURF GUIDE...A new Sports Turf Maintenance Guide featuring tips from noted Kansas City groundskeepers George and Chip Toma is available free from PBI/Gordon Corp. The 32-page booklet outlines specifications and suggestions for mowing, watering, fertilizing, weed/insect/disease control; seeding; sodding; thatch management; and clippings management. To order, write PBI/Gordon at P.O. Box 4090, Kansas City, MO 64101.

GOLF COURSE ANSWERS...RGF Environmental Systems is offering a free booklet titled "101 Environmental Questions and Answers for Golf Courses." The booklet is written in laymen's terms with car-

INFO CENTER

Useful literature and videos for LM readers

toon-type illustrations to help the superintendent's knowledge of recent environmental concerns: equipment cleaning, mixing and loading, pesticides, storm water, odor control and pond algae control. To order, write RGF Environmental Systems, 3875 Fiscal Court, West Palm Beach, FL 33404 or phone (800) 842-7771 or (407) 848-1826.

VARGAS REVISITED...Completely revised and updated, "Management of Turfgrass Diseases Second Edition" by Dr. Joe Vargas Jr. of Michigan State University, costs \$59.95. The book uses more than 70 full-color photos and more than 100 black-and-white photos. Mail your order to Lewis Publishers, P.O. Box 519, Chelsea, MI 48118 or phone (800) 272-7737.

PROTECTIVE CLOTHING...A new four-page, four-color brochure from DuraFab

describes how some clothing can contribute to worker productivity by protecting workers while reducing the possibility of heat stress. For a copy of the free brochure, contact Dura-Fab at P.O. Box 658, Cleburne, TX 76033; (800) 255-6401.

ON SOIL..."Organic Soil Amendments and Fertilizers," a 40-page booklet, is available for \$5. The booklet doubles as a handbook and reference, with useful information about the management and availability of organic materials in California. Materials are listed alphabetically in the index, and a glossary defines some of the important terms. Ask for Publication 21505. Make checks to UC Regents. Contact: Fresno County Cooperative Extension, 1720 S. Maple Ave., Fresno, CA 93702; (209) 488-3285.

IPM PROGRAMS...For suggestions on controlling turfgrass pests, get "Developing and Integrated Turfgrass Pest Management Program," authored by Dr. Peter Landschoot, assistant professor of turfgrass science. The free publication is available through the Publications Distribution Center, College of Ag Sciences, 112 Ag Administration Bldg., University Park, PA 16802; (814) 865-6713.

GREEN INDUSTRY SHOWCASE

Non-selective herbicide won't harm ornamentals



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GREEN INDUSTRY SHOWCASE

Non-selective herbicide won't harm ornamentals

Finale is a new non-selective herbicide from Hoechst Roussel that kills weeds one to four days after application.

Finale controls annual and perennial weeds, grassy and broadleaf weeds, sedges and woody species.

As a post-emergent, uptake is entirely through treated green tissue. There is no uptake through roots, or tissue covered by mature woody bark. Finale is not active in the soil, and there is no residual effect on transplants.

The key action of Finale is the way it inhibits plant photosynthesis.

The active ingredient in Finale is glufosinate-ammonium. It was discovered as a metabolic compound of a soil-inhabiting bacterium, and closely resembles glutamic acid, which is a natural amino acid.

Finale degrades rapidly into natural compounds in any microbiologically active environment, soil or water, such as carbon dioxide, nitrogen and water, which actually nourish the soil.

Finale can be used in spot or broadcast applications. No agitation is necessary when using this product.

Circle No. 191 on Reader Inquiry Card

Material hauler holds up to 1200 lbs., is self-loading

The LoadMaster walk-behind, self-loading utility vehicle scoops up compost, loose soil, sand, gravel, bark, and hauls trees, landscape material and irrigation



supplies.

The vehicle is powered by a 5 hp engine, and has a steel gear transaxle. It can climb 40° slopes while carrying 1200 lb. loads.

A self-tipping 7.5 cu.ft. bucket dumps and spreads in one motion.

Circle No. 192 on Reader Inquiry Card

Drainage system is double-sided, water flows better

A new horizontal high-flow highway-edge drain system is being offered by Drainage Products, Inc. of Windsor Locks, Conn.

The system is composed of a double-

sided, plastic cusped-core with channels that run horizontally and vertically instead of the conventional cusped configuration where the water flow is restricted.

The core is covered with a non-woven geotextile filter fabric which prevents the adjacent soil area from washing through, however, water permeation is unrestricted.

The drainage system requires only a narrow trench to be dug. This reduces the amount of earth to be removed, which can then be used as backfill.

Circle No. 193 on Reader Inquiry Card

Utility vehicle carries 750 lb. loads with 9 hp

Haul Master has a new powerful, small sized utility vehicle, the HM4209.

The 9-hp vehicle has a 750 lb. load capacity and maneuvers well in tight spaces, rugged terrain or paved surfaces.

The company says this multi-purpose vehicle is good for construction jobs, landscape management, farm recreation and industrial use.

With a maximum speed of 16 mph, the HM4209 features a 9 hp Briggs & Stratton engine, an electric starter and electronic ignition.

A heavy duty trans-axle with full differential allows for easy handling in rough terrain.

Circle No. 196 on Reader Inquiry Card



Mower has full hydrostatic transmission, floating deck

The Howard Price Turf Blazer is built with individual transmission controls and a floating cutting deck.

Dual hydro control levers enable the worker to set the speed of each drive wheel independently for straight tracking and adjustment on hills.

The floating deck oscillates nine inches to cut uneven ground without injuring turf..

Circle No. 194 on Reader Inquiry Card

Sharpen reel mower blades with state-of-art system

The Neary Manufacturing 500 series is a flexible system that can be improved as time goes by and needs change.

The 500 S spin sharpening system offers three-way rigid mounting, streamlined set up and true cylinder sharpening.

The 500 SR features adjustable 1° to 45° relief grinding capabilities to reduce the drag between the reel and the bedknife.

The relief grinding feature can be added to existing machines.

The 500 ASR system has automatic control, yet requires no special training or experience.

Circle No. 195 on Reader Inquiry Card

PRODUCT REVIEW

Utility trailer has big 1,000-pound capacity

Columbia ParCar has brought the Direct Track Utility Trailer to the landscape management industry.

The trailer follows the path of the towing vehicle easily thanks to four-wheel steering. The wood trailer deck measures a generous 44 x 72 inches and includes 14-inch high steel side rails.

Fabricated with powder coated steel, the trailer has a 1000-lb. payload capacity and will connect with any 1½-inch ball hitch.



Trailers can connect to one another for train-like applications. An optional suntop can be purchased for protection from weather.

Circle No. 197 on Reader Inquiry Card

nine annual broadleaf weeds, including tough-to-control oxalis and spurge.

American Cyanamid says pendimethalin allows for season-long control of troublesome weeds, including goosegrass, with a single, properly-timed application.

Turfgrass shows tolerance to the product, even when applied at highest rates. Used as directed, pendimethalin offers a wide margin of tolerance on a variety of cool- and warm-season grasses.

The product is also labeled for many ornamentals.

Circle No. 199 on Reader Inquiry Card

NEXT MONTH:
**Rebuilding
the soil**

Underwater aerator works well in shallower water

Toro's new Submersible Aerator addresses both aeration and mixing requirements in one package to enhance any aquatic setting.

A highly efficient pump draws air from an air hose above the water surface and injects it through a specially designed nozzle near the pond bottom.

The fine-bubble discharge thoroughly mixes the oxygen with the water, destratifies and provides horizontal water circulation with no additional components or accessories.

The aerator limits growth of pond algae, and stimulates decomposition of organic wastes and runoff nutrients.

The aerator operates in water as shallow as two feet.

Standard systems are available in 0.5, 1.0, 2.0 and 3.0 hp models, single or three phase, 115, 230 or 460 volts.

Circle No. 198 on Reader Inquiry Card

Pre-emergence herbicide controls six grassy weeds

Pendimethalin pre-emergence herbicide controls six annual grassy weeds, including crabgrass and goosegrass and

With Formulating Plants located in Florida and Wisconsin **KOOS • SHORE** can fill all your needs:

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KOOS  **SHORE**

Midwest
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Southeast
1-800-329-2203

Circle No. 111 on Reader Inquiry Card

PRODUCT REVIEW

Utility vehicle combines balance, comfort, power

Jacobsen's new SV System Vehicle work trucks feature an engine-forward design, 2,800 lb. load capacity and the combination of four-wheel stability and three-wheel maneuverability.

The SV-2322 is powered by a fuel-efficient 23 hp diesel engine.

The SV-3422 has a 34-hp gasoline engine. Each provides the power needed for spreading, spraying, topdressing or even towing a 5-gang mower attachment.

The engine-forward design offers three advantages, according to Jacobsen: better vehicle balance, more operator comfort and easier maintenance.

Four-wheel drive adds stability. Turning diameter at the rear wheels is less than 3-feet.

Both models have eight forward speeds and reverse. Hydraulic attachments are available.

Circle No. 200 on Reader Inquiry Card

New utility vehicle added to existing product lines

Kawasaki has made an addition to its line of multi-purpose vehicles.

The Mule 2500 is built for use in farm, ranch, construction and other commercial and private applications.

The vehicle is two-wheel drive with dual-mode differential, and features a 617cc twin cylinder, four-stroke liquid-cooled engine.

Kawasaki now has five utility vehicles on the market.

The company also has the 'Bayou' line of all-terrain vehicles. Models are the Bayou 400 4x4, the 300 4x4, the Bayou 300 and the Bayou 220.

The four-wheel drive Bayou 400 has a 242 lb. cargo capacity, and is powered by a 391 cc liquid-cooled engine.

The Bayou 300 4x4 also has full-time four-wheel drive, dual-range 10-speed transmission, automatic clutch and 8.9-inches of ground clearance.

The 300 has double wishbone front suspension, torque tube Quad-link rear suspension and adjustable pre-load shocks. Brakes are dual discs in front and rear drums.

Circle No. 201 on Reader Inquiry Card

New retaining wall products featured in 1994 catalogue

Anchor Wall Systems, Inc. has readied its 1994 catalogue of Anchor Diamond Retaining Wall System products.

The eight-page color catalogue showcases the uses and applications for the Anchor Diamond retaining wall system, with information on product specifications, installation guidelines and reinforcement usage.

Circle No. 202 on Reader Inquiry Card

New pressure washer is portable, runs at 1200 psi

The new 'Stinger' high pressure washer from Ghibli North American, Inc. is a portable, 32-lb. cleaning machine.

The Stinger is equipped with a 25 ft., high pressure hose, trigger gun, insulated lance, variable spray nozzle and a low pressure detergent injection system.

Optional accessories include a rotary nozzle, drain cleaning nozzle and hose, rotating brush, sandblaster, foam gun and portable cart.

Circle No. 203 on Reader Inquiry Card

Look for this new line of potassium nitrate fertilizers

Vicksburg Chemical Company makes available its K-Power line of potassium nitrate fertilizers during the 1994 GCSAA show in Dallas.

The K-Power line includes four varieties of potassium nitrate fertilizers: Greens & Tees; Fairways—with the MultiCote controlled release system; a Combination formula; and Water Soluble, with selected micro-elements in a dry, crystalline form.

The MultiCote is a polymer coating designed to feed turf a steady and continuous supply of nutrients.

The company calls this the first controlled-released potassium.

Michael Larisey, market development manager, says the product's balance of potassium to nitrogen offers turf growers several benefits, including stronger turf that is better able to resist fungus, insects and heat stress.

According to Larisey, the K-Power products can lessen the occurrence of leaf

spot, fungal leaf spot, dollar spot, spring dollar spot and *gaumnannomyces graminis*.

Circle No. 204 on Reader Inquiry Card

Spray tips reduce drift, give optimum turf coverage

New, Mark II Lo-Drift spray tips by Lurmark, Ltd. offer an innovative, engineered spray droplet spectrum that significantly reduces drift. At the same time, the tips allows for optimum spray coverage of systemic and contact herbicides.

The tips fit all existing bodies and caps, and are suitable for spraying foliar and soil-applied herbicides.

The pre-orifice alters the range of droplet sizes in a way that can't be achieved by standard flat spray tips and extended performance tips, regardless of spraying pressure.

According to the company, virtually all spray droplets of less than 100 microns are eliminated, without affecting the sizes of the remaining droplets.

Circle No. 205 on Reader Inquiry Card

Sprinkler riser lets you raise heads without excavating

Olson Irrigation Systems markets the TSR-1, a threaded sprinkler riser that allows superintendents to turn sprinkler heads without excavating the entire swing arm assembly.

The TSR-1 fits between the swing elbow and the sprinkler head. When the sprinkler is rotated, the head is elevated or lowered by up to 3-inches.

The riser's threads are sealed so repeated adjustment is no problem, and the TSR-1 holds its setting.

The unit works with all 1-inch rotors, and with 3/4-inch heads, using a reducer bushing.

Circle No. 206 on Reader Inquiry Card

Portable first aid kit ideal for remote work locales

The Fanny Pack First Aid Kit contains sterile pads, sterile gauze, adhesive tape, bandages, aspirin, iodine wipes, ace bandage, tweezers and latex gloves.

The kit is made of heavy duty nylon, and has velcro closures.

Circle No. 207 on Reader Inquiry Card

MARKET SHOWCASE

Rates: \$226 per column inch for 1x insertion; \$215 for 3x insertion; \$204 for 6x insertion; \$194 for 9x insertion; \$183 for 12x insertion (one inch minimum). Frequency based on calendar year. For ads using a Reader Inquiry Number, add \$35 to the total cost of the ad per issue. For ads using a second color standard red, blue, green or yellow only, add \$75 to the total cost of the ad per issue. **Send ad copy with payment to: Bill Smith, LANDSCAPE MANAGEMENT, 7500 Old Oak Blvd., Cleveland, Ohio 44130, or call (800) 225-4569 ext. 670 outside Ohio; (216) 891-2670 inside Ohio; FAX (216) 826-2865. VISA, MASTERCARD and AMERICAN EXPRESS accepted.**

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Northeast Region: Desire a position as Assistant Superintendent of Golf Course. B.S. in Agronomy, A.S. in Turfgrass Management. Over five years of Golf Course experience including development of 27 holes. Contact: John Rickard, 239 Strickland St., Glastonbury, CT 06033, 203-633-4204. 1/94

If you need an experienced and determined landscape construction manager I can help! 15 years in education, in field, instructional and management experience in landscaping in the Midwest and West. Hardworking, organized and efficient. Very will and ready to relocate. Contact LM Box 505. 1/94

Self-employed landscape designer/manager A.A.S. Plant Science, A.A.S. Park Management seeking position with industry leader along East Coast. 20 years experience. 607-724-8733, 2975 NY RT 7, Harpursville, NY 13787. 1/94

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FOR SALE: ESTABLISHED GARDEN CENTER & LANDSCAPING BUSINESS in Marquette, Michigan. Owners retiring. Extensive perpetual inventory. Contact **TIMBERCREST** 1460 M-28 East, Marquette, MI 49855. Phone: (906)249-3984 days: 249-3411 eve. 1/94

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BUCKET TRUCKS: Straight Stick, Corner Mount and Knuckle Boom Cranes. Brush Chippers: New Morbark Disc and Drum Style. New Rayco Stump grinders. Best prices anywhere. Used Chippers: Asplundh, Morbark, etc. 2 to 8 usually in stock. Sprayers, Dumps, Stakes, Log Loaders, Crew Cab Chip Box Dumps, Railroad Trucks, 50 in stock. Sold as-is or reconditioned. We also buy your surplus equipment. Opdyke's, Hatfield (Philadelphia Area). 215-721-4444. 12/94

1981 GMC Spray Truck for sale. 1200 gallon split tank. Myers multistage centrifugal pump. Hannay electric reel with 300 foot hose. New tires. 350 motor with 67,300 miles. This truck is ready to work. Cost \$8500. 614-873-3605. 1/94

FOR SALE

New Image design System. 80 mb/16mhz (hard drive) Everex 386 Sx Computer. 387 Sx math coprocessor, Sony 12" color monitor, 12" Digitizing tablet, Super VHS camcorder, VHS VCR, Imaging software (Western and Norther Libraries). CAD compatible \$7,000; (214)265-7667. 1/94

FOR SALE: Vermeer TS 84" 6 Blade Tree Spade Mounted on 1979 S2200 International truck. Rebuilt motor, transmission, and rear. Spade and truck in good working condition. Dave Snyder 804-288-2891. 2/94

For Sale: **Lawn Tree Truck.** '84 Chevy C60, 75,000 miles, no rust. 350 engine, 5-speed, 1100 gallon fiberglass tank split 800/300 shaft agitation. 2 D30 hydrocell pumps. 2 Hanna hose reels and hose. \$9400 or best offer. 319-236-1164. 1/94

You are looking for new customers? We will be happy to provide you with addresses of all existing golf clubs in Europe (U.K. excepted) on ready-to-stick labels. For further information please contact Euro-Info-Golf, Fax: 33-1-39-69-85-85. 1/94

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GARDENER/HORTICULTURIST: Seeking individual with background in horticulture and proven hands-on ability to manage an historic garden/landscape. For information and to obtain an application, call 603-675-2175 or write by January 28, 1994: Personnel Office, National Park Service, Saint-Gaudens NHS, RR 3, Box 73, Cornish, NH 03745. An Equal Opportunity Employer. 1/94

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LANDSCAPE MAINTENANCE & GENERAL SUPERINTENDENT: Largest landscape maintenance company in the nation seeking individuals with 3-4 years experience. Must be able to make decisions, be creative, self-motivated, organized with strong supervisory skills. San Francisco Bay Area location. EOE. Please send resume to: Environmental Care, Inc., 825 Mabury Road, San Jose, CA 95133. Fax 408-437-1817. 1/94


Attention Employers and Job Seekers! Employers submit current job openings to the quickest, least expensive and most comprehensive job listing publication in landscaping, grounds/golf course maintenance & related horticulture fields. Ad deadlines are the 3rd & 17th of each month. \$14.95 for unlimited detail and nationwide exposure. Call for vacancy notice form. **Job Seekers** subscribe to the freshest source of national job openings in the fields of horticulture, 6 issues (3 mos.) for only \$19.95. MC/Visa. Call 1-800-428-2474, Fax 1-800-884-5198. Ferrell's JOBS IN HORTICULTURE, 154 E. Chapel Ave., Carlisle, PA 17013-3435. 1/94

Searching for the right employee? Time for a new position? Contact **Florapersonnel, Inc.**, international search and placement firm for the landscape, irrigation industries and allied trades. **Confidential. Fee paid by employer.** Florapersonnel, Inc., 2180 W. 434, Suite 6152, Longwood, FL 32779-5008. Phone: (407)682-5151 Fax: (407)682-2318. TF

GREENTREE INC., Atlanta's largest commercial Landscape Maintenance Company, is currently seeking a highly qualified, motivated person to manage the Floriculture Department. Candidate must be organized, exhibit strong management skills and have solid knowledge of Southeast region floriculture. Submit resume with salary history or contact Greentree Inc., Human Resources Department, 1640 Roadhaven Drive, Stone Mountain, GA 30083, 404-938-8080, Fax 404-934-0919. 1/94

Landscape Manager: Quality and growth oriented company servicing the Chicago land area needs individual to become part of management team. Outstanding opportunity that includes year-round employment, benefits, and great advancement possibility. Send letter or resume to: Ground Pros Inc., PO Box 28, Elmhurst, IL 60126. 1/94

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HELP WANTED

INDUSTRY PROFESSIONALS Hermes Landscaping and Nursery, a solid, stable, and progressive company, headquartered in Kansas City for nearly 30 years, is seeking production and sales professionals. Self-motivated professionals needed in various critical production and sales positions in our Nursery, Landscaping, and Maintenance Divisions. Must have BS Degree and 2-4 years related experience. Send resume and salary requirements to: Hermes Landscaping, PO Box 14336, Lenexa, KS 66215 or call Tracy Strohm at (913)888-2400. 1/94

Irrigation Professional needed for large full service landscape construction company in northern New Jersey. Motivated individual with proven background and technical skills needed. Growth potential. Salary and benefits commensurate with experience. Send resume and salary history to: Jacobsen Landscape Design and Construction, 41 Birch Street, Midland Park, New Jersey 07432. 1/94

KT ENTERPRISES, INC., a commercial landscape management firm servicing the Washington, DC Metropolitan market, is now accepting applications for employment in their landscape maintenance department for the 1994 season and beyond. All positions offer excellent salary, health benefits, retirement and, most importantly, an incomparable opportunity to work in a quality organization that will continue to offer professional satisfaction. Please send resume to: Mr. Doug Sevachko, KT Enterprises, Inc., 4001 Westfax Drive, Chantilly, VA 22021 if you are interested in any of the following positions: Pruning Department Supervisor, Maintenance Department Supervisor, Pruning Department Foreman, Pruning Department Foreman, Floral Installation Foreman, Turf and Ornamental Plant Specialist. 1/94

Landscape Architect/Sales: We are currently seeking an individual to prepare production layouts, meet with the customer, present and sell plans to the customer, and follow up after completion. Requirements: Bachelors Degree in Landscape Architecture, 2-5 years experience and proven track record. We are a full service design/build firm with a retail/wholesale landscape center operation. First year earning potential \$35-50,000 plus car, health insurance & bonus. Send resume to: Landscape Architect, P.O. Box 356, Saint John, Indiana 46373. 1/94

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PROFESSIONAL LANDSCAPE SALESPERSON Established design/build firm seeks an aggressive person, active in landscape sales. Degree in Landscape Architecture or Associated Field. Must have 3 years experience in client contact, estimation and field layout. Send resume to: Terrafirma, Inc., 3780 E. Morgan, Ypsilanti, MI 48197. 1/94

RESIDENTIAL SALES REPRESENTATIVES AND LAWN/TREE APPLICATORS: Accepting applications for experienced personnel for our St. Louis, Maryland Heights facility. We offer a salary commensurate with experience, good benefits, and performance-based incentives. Send resume to: TruGreen-ChemLawn, attn. Joe Landon, PO Box 2036 Maryland Heights, MO 63043. 1/94

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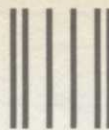
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102	119	136	153	170	187	204	221	238	255	272	289	306	323
103	120	137	154	171	188	205	222	239	256	273	290	307	324
104	121	138	155	172	189	206	223	240	257	274	291	308	325
105	122	139	156	173	190	207	224	241	258	275	292	309	326
106	123	140	157	174	191	208	225	242	259	276	293	310	327
107	124	141	158	175	192	209	226	243	260	277	294	311	328
108	125	142	159	176	193	210	227	244	261	278	295	312	329
109	126	143	160	177	194	211	228	245	262	279	296	313	330
110	127	144	161	178	195	212	229	246	263	280	297	314	331
111	128	145	162	179	196	213	230	247	264	281	298	315	332
112	129	146	163	180	197	214	231	248	265	282	299	316	333
113	130	147	164	181	198	215	232	249	266	283	300	317	334
114	131	148	165	182	199	216	233	250	267	284	301	318	335
115	132	149	166	183	200	217	234	251	268	285	302	319	336
116	133	150	167	184	201	218	235	252	269	286	303	320	337
117	134	151	168	185	202	219	236	253	270	287	304	321	338



JANUARY 1994
This card is void
after March 15, 1994

1. BUSINESS & INDUSTRY
MY PRIMARY BUSINESS AT THIS LOCATION IS:
(PLEASE MARK ONLY ONE IN EITHER A, B OR C)

- A. Landscaping/Ground Care at one of the following types of facilities:**
- 01 0005 Golf courses
 - 02 0010 Sports Complexes
 - 03 0015 Parks
 - 04 0025 Schools, colleges, & universities
 - 05 Other type of facility (please specify) _____

- B. Contractors/Service Companies/Consultants:**
- 06 0105 Landscape contractors (installation & maintenance)
 - 07 0110 Lawn care service companies
 - 08 0112 Custom chemical applicators
 - 09 0135 Extension agents/consultants for horticulture
 - 10 Other contractor or service (please specify) _____

- C. Suppliers:**
- 11 0205 Sod growers
 - 12 Other supplier (specify) _____

Which of the following best describes your title:
(mark only one)

- 13 10 EXECUTIVE/ADMINISTRATOR
- 14 20 MANAGER/SUPERINTENDENT
- 15 30 GOVERNMENT OFFICIAL
- 16 40 SPECIALIST
- 17 50 OTHER TITLED AND NON-TITLED PERSONNEL (specify) _____

I would like to receive (continue receiving)
LANDSCAPE MANAGEMENT each month: YES NO
Signature: _____ Date: _____

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At Toro and Four Wheel Drive, the high capacity mowing performance of the POWERED MOWER is only one of the many ways we've made our mowers the most powerful and versatile in the industry. The new Toro Commercial and Four Wheel Drive provide you with the power and versatility you need to get the job done. The POWERED MOWER is the most powerful and versatile mower in the industry.

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 101 | 118 | 135 | 152 | 169 | 186 | 203 | 220 | 237 | 254 | 271 | 288 | 305 | 322 |
| 102 | 119 | 136 | 153 | 170 | 187 | 204 | 221 | 238 | 255 | 272 | 289 | 306 | 323 |
| 103 | 120 | 137 | 154 | 171 | 188 | 205 | 222 | 239 | 256 | 273 | 290 | 307 | 324 |
| 104 | 121 | 138 | 155 | 172 | 189 | 206 | 223 | 240 | 257 | 274 | 291 | 308 | 325 |
| 105 | 122 | 139 | 156 | 173 | 190 | 207 | 224 | 241 | 258 | 275 | 292 | 309 | 326 |
| 106 | 123 | 140 | 157 | 174 | 191 | 208 | 225 | 242 | 259 | 276 | 293 | 310 | 327 |
| 107 | 124 | 141 | 158 | 175 | 192 | 209 | 226 | 243 | 260 | 277 | 294 | 311 | 328 |
| 108 | 125 | 142 | 159 | 176 | 193 | 210 | 227 | 244 | 261 | 278 | 295 | 312 | 329 |
| 109 | 126 | 143 | 160 | 177 | 194 | 211 | 228 | 245 | 262 | 279 | 296 | 313 | 330 |
| 110 | 127 | 144 | 161 | 178 | 195 | 212 | 229 | 246 | 263 | 280 | 297 | 314 | 331 |
| 111 | 128 | 145 | 162 | 179 | 196 | 213 | 230 | 247 | 264 | 281 | 298 | 315 | 332 |
| 112 | 129 | 146 | 163 | 180 | 197 | 214 | 231 | 248 | 265 | 282 | 299 | 316 | 333 |
| 113 | 130 | 147 | 164 | 181 | 198 | 215 | 232 | 249 | 266 | 283 | 300 | 317 | 334 |
| 114 | 131 | 148 | 165 | 182 | 199 | 216 | 233 | 250 | 267 | 284 | 301 | 318 | 335 |
| 115 | 132 | 149 | 166 | 183 | 200 | 217 | 234 | 251 | 268 | 285 | 302 | 319 | 336 |
| 116 | 133 | 150 | 167 | 184 | 201 | 218 | 235 | 252 | 269 | 286 | 303 | 320 | 337 |
| 117 | 134 | 151 | 168 | 185 | 202 | 219 | 236 | 253 | 270 | 287 | 304 | 321 | 338 |

**LANDSCAPE
MANAGEMENT**

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I would like to receive (continue receiving)
 LANDSCAPE MANAGEMENT each month: YES NO

Signature: _____ Date: _____



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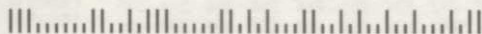
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with 100 HP TURBO and FOUR WHEEL DRIVE



FOUR WHEEL DRIVE "GO" POWER

Now, with the addition of optional 100 HP Turbo and Four Wheel Drive, the HYDRO POWER 180 is the ultimate in large capacity mowing performance.

Mow up to 17 acres/hour with the HYDRO POWER 180 hydraulically powered deck system — three individual decks cover up to 198" cut.

The 100 HP Turbo-charged Cummins diesel engine offers added power on demand — no need to slow ground speed while mowing in dense turf conditions. The extra power also provides a top quality cut and excellent clipping distribution.

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The Variable Speed Eaton Transmission (204 HP rated) affords the operator complete ground speed control. The operator can set the mowing speed to meet individual mowing conditions and not be restricted by a two-range system as on some competitive models.

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RAM I

**STILL TOUGH
AND
RELIABLE.
UNDER ANY CONDITIONS.**

Ram I, the proven Kentucky Bluegrass that still provides excellent color and top overall performance.

In national trials under both low and high maintenance conditions, Ram I ranked third and fourth respectively in overall turf quality.

Mean Turfgrass Quality Ratings of Kentucky Bluegrass Cultivars for Each Month Grown Under **High Maintenance** at Seventeen Locations in the U.S. & Canada
1991 Data

Turfgrass Quality Ratings 1-9; 9=Ideal Turf: Months 1/

NAME	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
Midnight	5.3	5.7	5.2	5.2	6.4	6.4	6.3	6.3	6.3	6.6	5.9	5.0	6.2
Unique	6.3	6.7	6.3	5.6	6.2	6.3	6.4	6.3	6.4	6.5	5.5	5.2	6.2
Glade	3.0	3.8	5.1	5.5	6.1	5.9	6.0	5.8	6.4	6.6	5.7	4.7	6.2
RAM-I	4.7	4.7	5.3	5.5	5.8	5.8	5.9	5.7	6.3	6.5	5.9	5.5	6.1

Under high maintenance, Ram I ranked fourth out of 125 entries.

Mean Turfgrass Quality Ratings of Kentucky Bluegrass Cultivars for Each Month Grown Under **Low Maintenance** at Sixteen Locations in the U.S.
1991 Data

Turfgrass Quality Ratings 1-9; 9=Ideal Turf: Months 1/

NAME	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
Midnight	5.3	4.7	6.0	4.8	6.7	5.7	5.3	5.6	6.5	5.7	5.6	6.0	5.7
Barmax	6.3	5.0	6.0	6.1	6.8	5.8	5.0	4.9	5.5	5.0	4.9	5.0	5.7
RAM-I	5.3	5.3	4.0	5.1	6.4	5.7	5.1	4.9	5.3	5.6	5.3	4.3	5.5

Under low maintenance, Ram I ranked third out of 62 entries.

So whether you're producing sod that will become someone's well-manicured lawn or seeding a low-maintenance area, count on a proven reliable...Ram I.



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