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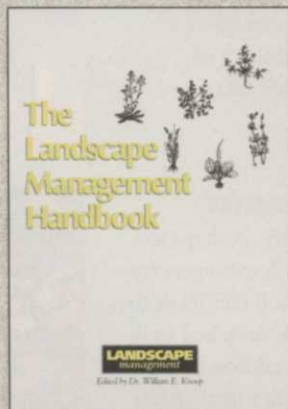


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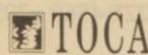
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Green Industry focus goes beyond volume of work done



Terry McIver

TERRY McIVER
Editor-in-Chief

The entrepreneurial spirit is alive and well in the Green Industry. Landscapers continue to move forward at full speed. Some have more work than they can handle without outsourcing. Business is good, thanks to a robust economy. Quality and training standards are still too diverse, and only 10 percent of our State of the Industry survey respondents belong to an association. (Our report begins on page 19.)

Commercial work is booming, says Eric Christiaansen of Sylvan Nursery, Billings, MT. "I thought we'd see an end to this but it hasn't died down yet," he says.

"The amount of work I turn down is staggering," says Russell Schmidt of Hillsboro, MO.

"My concern is with people who take work they can't do, don't show up or otherwise make the industry look bad, which creates ill will. What also needs work is involvement in trade organizations. We all should get involved and leave our petty differences behind. It aggravates me when I see people who aren't

sharing information."

Can a company be too diverse? The pressure of the marketplace pushes companies into more services than they can maintain at a quality level, contractors tell us. When a contractor doesn't know how to calculate total costs, he loses money. Work is not fetching the right price, according to some. Consultant Frank Ross will tell you that the industry has never known how to make a profit, just get the job done. If they take work just to get work, they lose even more.

"General contractors get what they pay for," says Stephen Woods, Stonehenge Landscaping Co., Newington, CT. "Saving \$5,000 on the price may cost the client or contractor \$10,000 in the long run. We just stop bidding on the work if

the contractor has that attitude."

The golf industry seeks to raise the business acumen of the modern superintendent. To be a "professional" superintendent today means you can handle all the business aspects of turf management, from buying to budgeting to payroll, to recruitment to public relations.

This is a lofty goal, but let's not discount those superintendents whose first and best strength is in turf. Some of our best "self-made superintendents" have never balanced a budget, but have successfully maintained some of the world's finest golf courses.

The new era superintendent, "is the CEO of a multi-million dollar operation who is responsible for budgets, personnel, scheduling, purchasing and productivity, in addition to the final product," says Paul Latshaw, Jr., at Merion Golf Club, Merion, PA.

A question to ask, however is, How much of this emphasis on "superintendent as businessman" has more to do with image and public relations ("Our superintendent would never misuse pesticides, he's an MBA!") and not wanting to pay an accountant to handle the books? Is the golf industry downsizing, and we just don't recognize it amid all the talk about the "growth of golf"?

In the parks/grounds segment of the industry, the majority of the managers we spoke with say their corner of the industry is experiencing exciting growth and quality improvement thanks to training, technology, emphasis on quality and smart management. This industry segment is strong, in spite of pockets of downsizing. Yesterday's image of the custodial groundskeeper has experienced a metamorphosis, attracting many new and skilled people, writes author Robert Reaves. Those who begin without experience and training are sure to receive it, as it seems training programs have gotten better.

"We are looking at the PGMS Groundskeeper Certification Program," says Tom Dew of Texas A&M. "We also take several benchmarking trips each year. Benchmarking allows us to measure ourselves against others in order that we can improve our quality." **LM**

What's your opinion? Address comments to: tmciver@advanstar.com or 800-225-4569 x709.

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Circle No. 126 on Reader Inquiry Card

Eastern Pine Shoot Moth is a Problem

We are finding an increase in pine shoot borers. This appears to be a major problem where people have planted monocultures of white pine or Scotch pine. This is seen quite often in commercial grounds. The terminals of pines turn brown and bend down like an inverted 'U'. We think it is a problem with eastern pine shoot borer. What can be done for control?

—PENNSYLVANIA

Eastern white pine and Scotch pine are favorite trees for eastern pine shoot borer, *Eucosma gloriola*. However, other pines, as well as, occasionally, Douglas fir and other conifers, can also be attacked by this insect.

Adults of this pest, a small moth (14-16 mm), are rarely seen. Their larvae produce characteristic straight tunnels, with frass tightly packed at either end. Also look for oval or oblong exit holes near the tunnel base. This area will be discolored and reddish-brown.

Understanding their biology will help manage them. The borer overwinters as pupa in duff under the host tree. Adults emerge about this time when new candles grow (around late-April or early-May in your area). Adults lay yellow, flat eggs, either one at a time or in groups, for two to four weeks on the new twigs or needle sheaths. After 10 to 15 days, the eggs hatch and the larvae enter the shoot behind needles, boring directly into the pith.

For the next 1½ - 2 months, the larvae make straight tunnels and move downward. They later move upward, packing the frass tightly on both ends of the tunnel. Most feeding activities are completed by late-June and girdle the shoot internally at the base. Damaged shoots may show a typical shepherd's crook (inverted 'U'). The larvae make tiny oblong or oval exit holes, drop to the ground and spin silken cocoons in the duff.

Within two days they pupate and remain dormant until the following spring. This pest has one generation per year.

Early detection of infested terminals is helpful for management, although this can be difficult. Look for slightly yellowed shoots with stunted or retarded needle growth. In some situations, wilting of terminals may be evident. Selective pruning of affected terminals will help manage this pest. Pruning should be done early in the season to avoid pest population build-up. Apply pesticide treatments, Orthene or Talstar, when eggs hatch and larvae are entering the shoots and in mid-summer when larvae are exiting to pupate. *B.t.* can also be used at the time the eggs are hatching.

Read and follow label specifications for best results.

An Unpleasant Mess

On the mulch bed once in a while we find some mold-like growth. Its appearance is ugly and resembles like some animal excrement or vomit. What is it? What causes this? Is it harmful to the tree

or shrubs growing nearby. Most of these appear as whitish yellow to start and later change to a black, unsightly crust like mess. Some of these range from 6"- 18" in diameter. Is there anything we can do to get rid of this?

—MICHIGAN

From your description of the mold like growth on mulch, the problem appears to be caused by a slime mold. Their sudden appearance in ornamental beds or other areas cause concern to people. It is not a disease and generally is not harmful to nearby plants. It is primarily an aesthetic problem. It belongs to the class Myxomycetes, a group between bacteria and fungi. They have two developmental stages. The first stage is the slimy, often colorful, plasmodial, mobile stage. Under cool, moist condition it grows rapidly.

The second stage of their life cycle resembles more closely a fungus by producing fruiting bodies. In this stage they produce lots of spores for dispersal. The crust-like ugly 'mess' that you have described is their fruiting body. When disturbed these fruiting structures release spores which will be dispersed into the air.

Generally, there is no need to manage saprophytic slime mold growth. However, for aesthetic reasons the slime molds can be removed by raking, brushing or scooping with a shovel and then washing the affected area with a jet of water. **LM**



BALAKRISHNA RAO
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 for the Davey Tree Co.
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Whatever the weather that occurs each year, there are insects, mites and diseases which are active under these specific conditions. Effective treatment requires accurate identification. But sometimes, the problem may be new, the symptoms may not appear typical or appear at the usual time of the year, or a combination of problems may exist which further complicate identification.

In many cases, taking a sample and sending it to a diagnostic laboratory is appropriate. The reasons for and the costs of the test can be explained to the client. In some cases, the lab will be able to make a visual identification, especially if they have been seeing a lot of that problem. However, the lab may need to carry out tests to identify a specific disease.

Sending a good sample is important for identifying a pest or disease. In some cases, a specific part of the plant is required. In other cases the actual pest or sign of the disease are necessary.

Proper packaging is necessary so that your sample gets to the lab in identifiable condition. Crushed, dried, mushy or just plain unidentifiable samples are useless, and so are dead plants.

Most labs have a form to send with any sample. Information includes: location and species, plants affected (one species or many), amount of plant affected, symptoms, plant parts affected, and date noted. Shipping should be swift and should not allow samples to sit over a weekend upon delivery. If a shipping delay must occur keep plant samples refrigerated

The basic points are:

Woody plants:

- ▶ roots and soil or leaves and soil for systemic or nutrient problems (check with the specific lab);
- ▶ send entire plant when possible;

- ▶ for cankers, dieback, swellings etc. be sure to cut to include any possible transition areas into unaffected areas;

- ▶ do not send wet samples or add water, including wet paper towels;

Herbaceous plants:

- ▶ send complete plants with roots intact (and for some labs, soil);

Mushrooms and conks:

- ▶ do not use plastic bags or jars; place in paper bag or wrap in newspaper

Turf:

- ▶ a sample with both healthy and diseased turf and the disease margin between the two;
- ▶ sample size may vary by lab, but should include the soil layer
- ▶ wrap in newspaper or aluminum foil to keep intact;

Insects:

- ▶ check with the lab for the legalities of shipping live samples
- ▶ most insects - in alcohol - not ethyl acetate, water or formaldehyde
- ▶ butterflies and moths - dry and uncrushed (tissue paper in a box)
- ▶ grubs - alive in some soil;
- ▶ caterpillars - alive on a portion of the host plant;
- ▶ mites, scales aphids, thrips - alive on affected foliage/stems
- ▶ include sample of affected plant material and multiple pests

Final hints:

- ▶ have the correct phone number and address as well as the name of any appropriate lab staff;
- ▶ find out how the lab wants samples sent, the type of packaging and their fees and the forms to include;
- ▶ keep this information where you can find it; a couple of places in your filing system might help (a file under "Insects" and/or "Diseases" or under "Lab Tests" or even in your file on suppliers).
- ▶ keep copies of the info you send so you remember what you sent and why. **LM**

Agree/Disagree? Comments/Questions? Column Suggestions? Let Nancy Stairs know at 440/891-2623. Fax: 440/891-2675. E-Mail: nstairs@advanstar.com.

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Daytona school steers mechanics in right direction

DAYTONA, FL—Tresca Industries, distributors of professional turf maintenance equipment in Florida, reports record attendance at its fourth annual Professional Service Seminar, at the Daytona International Speedway.

The two-and-a-half day event was held on April 27-29, with 120 in attendance from Georgia to Jamaica.

In attendance were reps from golf courses, sports sta-



Attendees at the Tresca maintenance school gathered in the winners circle at Daytona Speedway.



Students got a tear-down lesson with help from Jacobsen engine.



New Holland manufacturers rep Stuart Swiler answered lots of questions on hydraulics.

diums, municipalities, colleges and universities, parks, landscape firms and management companies.

Michael Sherotski, equipment maintenance supervisor at the Marriott Grand Vista,

home of Nick Faldo Golf Institute, has attended four of the seminars.

"We get mechanics from all over the state," says Sherotski. "The round table discussions bring out problems and solutions. Instead of always calling the manufacturers, we can talk to a mechanic who has experienced a similar problem. Engineers from manufacturers covered different things, which also gives someone a place to start to solve the problem. All this is to get us to a higher level."

Jim Torba, superintendent at the University of South Florida Golf Course, attended the seminars to increase his

equipment knowledge and better understand his mechanic's equipment needs.

"I want to keep as current as I can on all equipment issues," says Torba. "When you're in charge of buying you have to keep up. Now I know where my mechanic is coming from. There was lots of insight into preventive maintenance."

Tresca offered more than 12 hands-on classes, with technical help from Jacobsen, Smithco, Bush Hog, Briggs & Stratton, New Holland, Honda, Spraying Devices, Inc., Simplex Grinders and Husqvarna. □

Husqvarna 'racing' ahead with plans

CHARLOTTE, NC— If you're not a NASCAR fan and you want to stay that way—please stay away from a NASCAR race. Once you experience ("see" is not descriptive enough) a NASCAR event you're going to get hooked.

About 200 "friends" of Husqvarna caught the NASCAR fever this past Memorial Day weekend. Husqvarna hosted a weekend of racing while also acquainting them with Husqvarna and its commitment to training and excellence. The 309-year old forest and garden company is best known for chain saws but now offers a growing family of other green industry equipment too.

"This year alone we have committed 17 percent of our overall budget to customer training," said David Zerfoss, president, Husqvarna Forest & Garden Co. "In addition, we allocate 25 percent of our budget to keep our associates abreast of the latest trends and technologies so that we can better serve our cus-



Husqvarna's David Zerfoss (l. to r.) with Bruce Wilson, Environmental Care, Tom Oyler, U.S. Lawns, Joe Gibbs, Joe Gibbs Racing, and Per Heistad, U. S. Lawns. Husqvarna is a sponsor of Joe Gibbs Racing.

tomers and set a leading pace for the industry.

"In regards to training, we set our benchmark against companies renowned for training success, such as Motorola and Disney, not necessarily our direct competitors."

Husqvarna has also partnered with industry associations to bring years of training and safety expertise to each association's membership, including:

Associated Landscape Contractors of America: The company is producing training videos for ALCA members while it also participates in the ALCA Student Career Day.

International Society of Arboriculture (ISA):

Husqvarna has produced 13 videos for ISA members high-

lighting safe working habits.

National Association of Arboriculture (NAA): Husq-

varna has produced a training video, supplemented with training in the field conducted by NAA staff.

of Fame coach with three Super Bowl rings). Joe Gibbs Racing is headquartered in Charlotte near the Husqvarna headquarters. Gibbs will endorse the company's products and appear in its national marketing campaigns.

Husqvarna's name will be present on all cars that represent Joe Gibbs Racing, including the Winston Cup (driver Bobby Labonte); the Busch Grand National and late model stock car circuits; and in NHRA funny car and top fuel car drag racing circuits.

"Husqvarna prides itself on being associated with winners,



When the stock cars thunder around the Charlotte Motor Speedway they're traveling over 165 mph, often bumper to bumper.

But, back to the racing. Husqvarna recently entered into a multi-year agreement with Joe Gibbs Racing (led by Gibbs, the NFL Hall

from our retailers on down," said Zerfoss.

The Joe Gibbs/Husqvarna team had a good Memorial Weekend at the Coca-Cola 600 at Charlotte Motor Speedway. Driver Bobby Labonte finished third in front of a crowd of 170,000. □



Husqvarna's guests got an opportunity to visit the garage area before the big race.

In the ever-changing world of business and industry, one thing remains the same.

Dodge is dedicated to people who are dedicated to their work.

For evidence look no further than our On The Job program, which gives



**ON THE
JOB**

qualified businesses commercial breaks, so to speak.

The program includes a new flexible financing and leasing plan, which lets you tailor-make a deal based on your individual business needs. Even open-end leases and

An important commercial message from The New Dodge

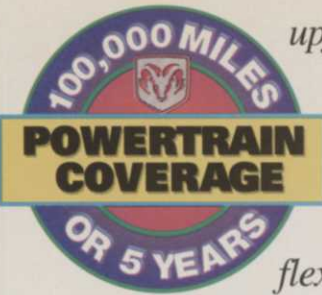


What makes our On The Job program truly outstanding, however, are the capable commercial Dodge trucks it covers. The newly redesigned Dodge

Ram Vans and Wagons, with more available Magnum® power, more



safety features, and three different body lengths to choose from. Dodge Ram Pickup,††

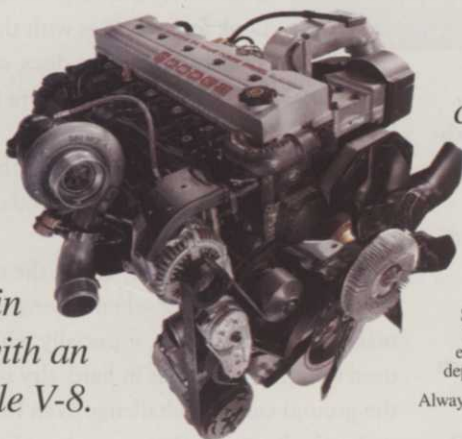


upfitting equipment for a new vehicle are covered. (When we say flexible financing, we mean flexible.) Plus, there's a choice of our extended 100,000-mile/5-year Powertrain Care PlusSM service contract

with Road Hazard Tire Coverage,* or up to \$500 cash back.† And all that's over and above any national consumer incentives.



available with an improved Cummins Turbo Diesel. And of course, Dodge Dakota,‡ the only pickup in its class with an available V-8.



Whatever your next commercial venture, Dodge has an excellent way to help you sponsor it.



*Service contract not available in AL, FL, MS, OK or UT. No refund if canceled. Some vehicles ineligible. There is a \$100 deductible for each covered repair visit. †Tire coverage covers only complete or pro-rated replacement for original four tires, excluding spare. See plan copy and full details at dealer. ‡\$300-\$500 cash back, depending on model. ††Select models only.

Always use seat belts. Remember a backseat is the safest place for children.



The New Dodge

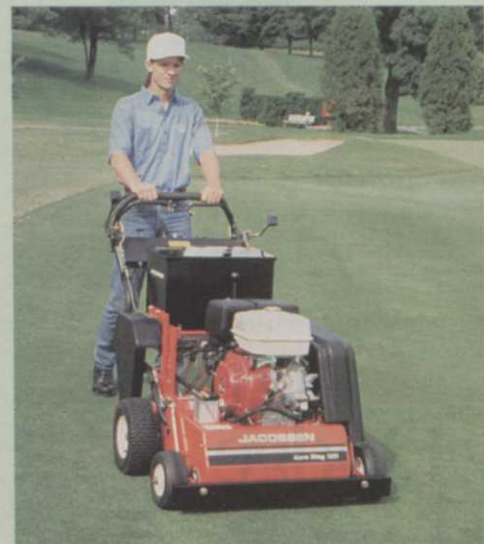
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JRCO model fits most commercial walk-behind/riding mowers.



(above) Gandy combo dethatcher/seed-er holds up to 125 pounds of seed.



Jacobsen unit covers a 48-inch swath, and plants 16 rows on 3-inch centers.

SEEDERS

Tips when using these tools include precise depth adjustment and good seed-to-soil contact.

By CURT HARLER/ Contributing Editor

Good seed-to-soil contact is probably the single most important factor under a turf manager's control when establishing or renovating a turfgrass area.

Of course, a manager greatly increases his/her chances of success by using an appropriate variety of seed for the locale and conditions. Other factors that make for successful seeding include a good fertility program and help from Mother Nature in the form of gentle and abundant rainfall.

But making sure the seed is nestled properly into the ground is a sensitive, yet key part of seeding.

When purchasing or using a seeder, be sure the unit is able to place the seed accurately where it should be — in close contact with the soil. Remember it is likely the unit will be called upon to handle a variety of seed sizes and shapes, ranging from coarse buffalograss to tiny bentgrass seeds. Look for machines with the seed outlets placed directly behind the discs, so more seed ends up in

the ground and not on top of it where it becomes a feast for the birds.

Look for a simple, yet precise depth adjustment system on any seeder. Just as bad as leaving seed on the surface is burying it too deep for germination.

As with a lawn mower, check the number of square feet or acres covered per hour when buying a seeder. Weight of the machine also is a factor, especially when the machine will be used to rejuvenate grass in hard, dry soils where cutting into the ground can be a challenge even for the toughest machine.

Lastly, be aware that a number of companies offer combination machines, designed to do a couple of different jobs. This can be handy for some companies.

AGRI-FAB
217-728-8388
Circle No. 250

The 45-0228 push drop seeder with a 75-pound capacity is available from Agri-Fab, Sullivan, IL. This handy push spreader can be equipped with marker wheels to assure accurate drop in difficult conditions. It has a 24-inch spread width and a nylon gear drive. Several other push-behind and tow-mount seeders are also available.

BEFCO
800-334-6617
Circle No. 251

The Green-Rite one pass aerator/over seeder from Befco, Rocky Mount, NC has a single 7.5 cubic foot seed hopper. Unit comes in a 58-inch working width for use with tractors from 25 to 45 hp. In a single pass, this unit aerates, seeds, agitates seed to ground, and compacts the seed to assure excellent germination. Seed cups meter seed precisely. Slicing knives provide minimum damage to existing turf. Optional front gauge roller kit is available.

BLUEBIRD INTERNATIONAL
800-808-BIRD
Circle No. 252

Fully adjustable seeding depth and a seed application guide decal inside the hopper are just two of the features of the EasyScape Seeders from Bluebird, Englewood, CO. Units offer an 18-inch seeding width and fully adjustable seeding depth. There are 20 beveled-edge slicing blades to plant seeds at two-inch intervals. Rear deflector covers seeds to assist germination. Several B&S and Honda engine options are available ranging from 5 to 8 hp. With the seed hopper disengaged, units can be used to dethatch.

BRILLION IRON WORKS CO.
920-756-2121
Circle No. 253

The Turfmaker II grass seeder from Brillion features a main hopper that is 255 percent larger than the Turfmaker model, and delivers tough-to-handle fine fescues at rates of up to 350 pounds to the acre

without bridging. The 12-foot Turfmaker II seeder can hold 23 bushels of seed in its main hopper. A large-capacity hopper means more time seeding and less time filling.

CLASSEN MFR. CO.
888-252-7710
Circle No. 254

The multi-purpose TS-20 commercial turf seeder can put in a new lawn, overseed an existing one, or be used as a vertical



Classen TS-20
can also be used
as a verti-cutter.

cutter. Comes with 5 hp Briggs & Stratton or 5.5 hp Honda OHV engine. Seed flow is adjustable for different types of seed and is activated by a single lever. Polypropylene hopper does not rust. Optional flail-blade assembly made by Classen, Norfolk, NE will convert the unit into a turf rake.

FINN CORPORATION
800-543-7166
Circle No. 255

The T60 Series II HydroSeeder from Finn, Fairfield, OH is sized for residential and small commercial jobs. One-man remote hose operation on the 500-gallon unit, allows maximum flexibility. The T90 Series II has an 800-gallon capacity. It offers both tower discharge and optional remote hose operation. Trailer or skid-mounted models are available. The T-330 and T-280 HydroSeeders have the capabilities and output to handle highway, golf course and commercial sites. A newer, larger slurry pump, coupled with a turbo charged diesel engine, provides more pump pressure and output, resulting in faster slurry dis-

charge and distance for added productivity.

GANDY COMPANY
800-443-2476
Circle No. 256

Combination dethatcher/over-seeder from Gandy, Owatonna, MN has a rugged 7-gauge steel frame and a

42-inch, covered steel hopper that holds 3.5 cubic feet (or 100-125 pounds of seed). This 48-inch wide unit drops seed on two-inch centers through 24 outlets. It requires a 540-rpm tractor with slip clutch for tractors 18-hp and up. Easily accessible turnbuckle adjusts planting depth. An optional shoe assembly permits more seed to be placed in the slit for increased seed-to-soil contact. Trailing 3-section roller or brush assembly also available.

HERD SEEDER
219-753-6366
CIRCLE NO. 257

A full line of seeders, ranging from the popular 3-point hitch mounted Model 750 to the mower-mounted GT-77 is available from Herd, Logansport, IN. The 750 is made with the professional in mind, versatile enough to handle 750-pounds of material and control seed rates down to 3 pounds per acre and fertilizer from 50 to 1000 pounds per acre. 16-gauge steel hopper with welded seams practically cleans itself. Optional lime agitator is available. Units can spread salt to melt ice, and handle a range of other jobs around the operation.

JACOBSEN
800-727-JAKE
Circle No. 258

The Aero King 1321 Verticutter-Seeder from Jacobsen, Racine, WI has a huge 21-inch seeding width

and an operating speed of 2.5 mph. Hopper holds over a bushel of seed, which allows seeding of 23,000 square feet per hour. Seed outlets are 1.5 inches apart, giving good one-pass coverage. Seed rate is maintained regardless of ground speed. Unit has a 13-hp Honda engine, largest in its class. Overhead-valve design and 6:1 gear reduction provide smooth, quiet power and good fuel efficiency. Front-mounted verticut blades allow verticutting and seeding at the same time.

JACOBSEN
800-727-JAKE
Circle No. 259

For big seeding jobs, check out the 548-100 seeder/aerator from Jacobsen, Racine, WI. Seeder covers a 48-inch swath, planting 16 rows on 3-inch centers. Offset design lets seeder cover tractor tire treads. Seeds are dropped into a slit furrow, so they do not get washed or blown away. Hopper holds 100 pounds of seed and chain drag mat covers seed after planting. Remove the seeder and the 548-100 can be used as a vertical mower to renovate, dethatch and vertical mow turf. Unit requires a 540 rpm pto and Category one 3-point hitch tractor.

JRCO, INC.
800-966-8442
Circle No. 260

Electric front-mount Broadcaster Seeder/Spreader from JRCO, Minneapolis, MN fits most commercial walk-behinds and riding mowers. Polyethylene hopper has capacity of 2.2 cubic feet (about 130 pounds) and is ideal for spreading fertilizer, seed, fire-ant bait and ice-melting pellets. The Broadcaster attaches to the JRCO mounting bar with four clevis pins and is controlled from the operator's position.

RANSOMES CUSHMAN RYAN
800-228-4444
Circle No. 261

Overseed, dethatch or do both at once with the Mataway Over-seeder/Dethatcher from Ryan, Lincoln, NE. Model 544873 has a 0.8-cubic foot hopper which is fully adjustable for all types of common grass seed. There are 10 seed drops

> LM REPORTS

on two-inch spacing, one-inch hardened steel slicing reels and 10 8-point slicing blades spaced on 2-inch centers. Unit is powered by an 11-hp, 4-cycle Kohler engine. Seed flow stops automatically when the reel is raised to cross cart paths or lanes.

REDEXIM CHARTERHOUSE

800-397-5664

Circle No. 262

The Verti-Seed from Redexim Charterhouse combines multiple actions into one process for easy, rapid, accurate seeding. This machine cuts open the soil, opens the groove, sows the seed and closes the groove in one operation—and at speeds up to 6 mph. Made in England and distributed through the company's Kingston, PA warehouse, the Verti-Seed is available in 34 or 50-inch models. The 004-804 has hopper capacity of 3.35 cubic feet and requires a 17 hp tractor with 1,300 pounds lift capacity. It covers up to 64,800 square feet per hour. The larger 004-1204 has a 5.1 cubic foot hopper, requires 22 hp, and covers 108,000 square feet per hour.

REINCO

800-526-7687

Circle No. 263

A full line of HydroGrassers is available from Reinco, Plainfield, NJ. Ranging from the HG-5H for smaller seeding jobs to the giant HG-30GX which has up to six acres capacity, these units can be truck or skid mounted. Typical of the line is the mid-sized HG-10GX. Its power options include a 35 hp Ford gas engine and a 33.5 hp Kubota diesel. It requires a 23,000 gvw truck. The 10GXA2 version is a self-contained trailer mounted unit. Both offer standard 130-foot discharge range, or 400 feet with hose.

THOMPSON SEEDER

219-753-6366

Circle No. 264

Two seeders are available from Thompson, Logansport, IN. The S3B is a three-bushel, pto mounted unit with 200 pound capacity. It can handle all sorts of fertilizer. The M3B

is a three-bushel, motorized unit designed for mounting on a pickup, ATV or tractor. The M3B can be used to spread chemicals because it has a vibrator-type distribution system rather than a stir agitator. Accessory battery box is available for use with ATVs which do not have own battery. All mounting hardware and flotation tires included.

TORO

612-888-8801

Circle No. 265

The 205 Seeder from Toro, Bloomington, MN is the tool for tough turf problems. A width of 18 inches can be seeded, dropping seed at 2-inch intervals. Delta Reel blades open a soil slit for the seed. A flap on back of machine covers the seed with a thin layer of



Toro's 205 seeder.

soil for better germination. Unit is powered by a 5 hp Briggs & Stratton engine and has a handle-mounted automatic safety clutch control.

TRYNEX INTERNATIONAL

800-725-8377

Circle No. 266

Convert a spreader into a seeder with the GAK-020 conversion kit from TrynEx, Royal Oak, MI. Adaptable to most hopper-type spreaders with three-inch throat openings, this gate assembly kit allows spreaders to be used for seed, fertilizer, ice melters, pelletizer materials or oil dryers. Selling for \$149, it features positive-lock T-handle control, multi-

position gate calibration, and a 10-foot control cable (20-foot cable is optional). Made of zinc-plated steel, it is easy to install.

TURFCO

612-785-1000

Circle No. 267

The LS-20 is a lawn overseeder designed with the lawn care profes-

plant multiple varieties of wildflower seed in one application. Planter has 3 seed boxes and 8 planting units. Each planting unit has 8 single-disk coulters mounted on a heavy bridge frame. Grain hopper, legume hopper and fluffy seed hopper cover all the bases. Total planting width is 42 inches. Wildseed Farms is in Eagle Lake, TX.



Turfco lawn overseeder works with all common grasses.

sional in mind from start to finish. A long handle gives great control even in tight spaces. The LS-20 is designed to work with all common lawn grasses, even fescues. All controls are on the handle for easy reach. The seeder covers up to 30,000 sq. ft. per hour. Seeding is done on 1.5-inch spacing, which is just right for fescue, advises the company. The unit will go up and over curbs. 10-inch pneumatic tires allow it to work on rough lawns, or even raw dirt, says Turfco. Damaged blades can be replaced in minutes with the reel still in the unit. Can also be used for dethatching.

WILDSEED FARMS

800-848-0078

Circle No. 268

The J-Thom 42 Wildseeder is a drill-type seed planter designed to

THOMPSON SEEDER

219-753-6366

Circle No. 269

Two seeders are available from Thompson, Logansport, IN. The S3B is a three-bushel, pto mounted unit with 200 pound capacity. It can handle all sorts of fertilizer. The M3B is a three-bushel, motorized unit designed for mounting on a pickup or tractor. The M3B can be used to spread chemicals because it has a vibrator-type distribution system rather than a stir agitator. LM

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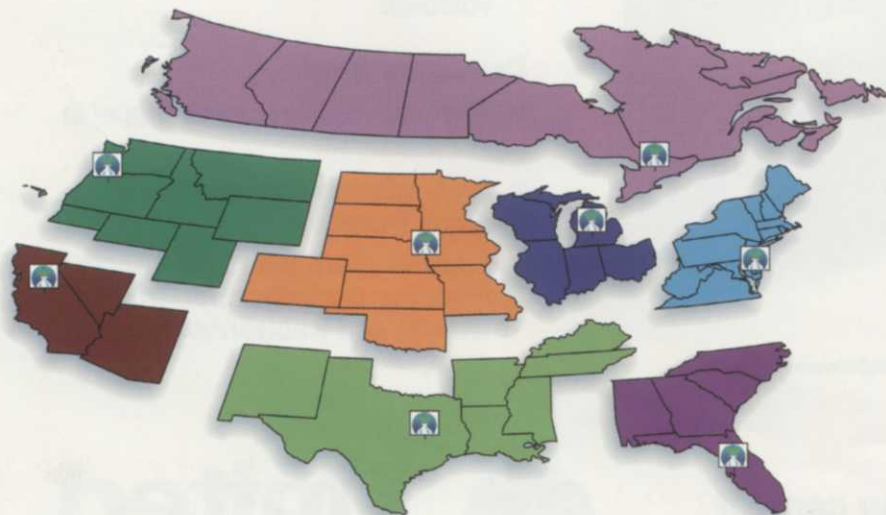
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STATE of the INDUSTRY

Landscapers like go-go economy

Healthy economy means lots of work, clients with better budgets, and more competition for labor.

By RUTH E. THALER-CARTER, Contributing Writer

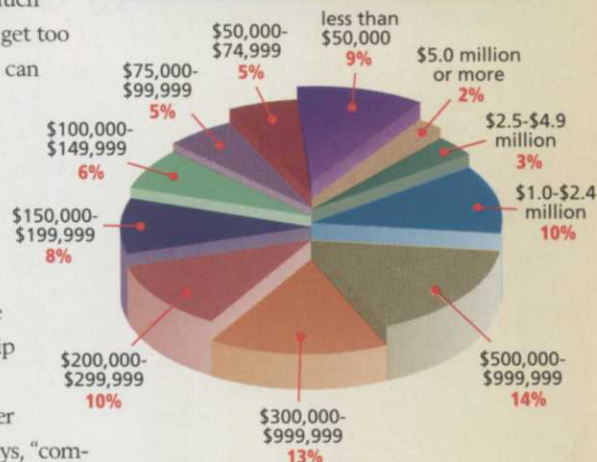
A healthy national economy means work, generous budgets and growth for landscape professionals, the downside being that it's harder to find and keep good workers.

Market growth

"The market absolutely is growing," says Don Skradski, Omaha, NE. "It's booming here. If anything, I have too much work, but I don't want my company to get too big; I try to keep things streamlined so I can keep control over quality. People have more money so they're spending it. They used to just put in grass; now they're doing a whole landscape. There's a healthy economy, so clients need us; they have no time to do their own yard work. We don't have any ocean or mountains, so they worship their lawns here."

Eric Christiaansen, landscape manager of Sylvan Nursery Inc. in Billings, MT, says, "com-

**1997 REVENUES FOR
LANDSCAPE/LAWN CARE**





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STATE OF THE INDUSTRY



Bruner: an 'unbelievable' amount of work.

petition is not even an issue. We aren't taking more work for the season, and we're working a year in advance.

"People are blending the landscaping costs into the mortgage, a trend that is migrating north from Colorado. We're designing and selling before they even break ground on a property."

Commercial work is booming, too, Christiaansen says. "I thought we'd see an end to this but it hasn't died down yet."

John Bruner, owner of Bruner Construction Ltd. in Kansas City, KS, says "Businesses are relocating here due to its convenient central time zone. We're in a boom that's feeding on itself."

Bruner's does mostly street and highway work, and maintenance on large commercial tracts of ground, reservoirs, dams and military sites. The amount of mowing and maintenance opportunities are "unbelievable," says Bruner.

Bruce T. Moore, Sr., CCLP, president of Eastern Landscape Management Co., Stamford, CT, says the market in the Northeast has improved a lot in recent years.

"We're seeing an upturn," says Moore. "Our area is just coming out of a severe economic recession and there's a lot of construction and real estate because people have money now, and landscaping is growing."

Where are the workers?

"It's always tough to find employees; it's perhaps the toughest part of the business," says Christiaansen, who has had success with local college students who want to work.

Labor is, indeed, hard to find, Moore in Connecticut adds. "This is a high cost-of-living area with the influence of a large metropolitan area, New York City. There is a definite lack of middle-management-level people, because the cost of living means they don't live here," he explains.

"There is no unemployment here, so finding help is hard," Skradski says of the Nebraska region.

"We don't have trouble finding help; we have a problem finding good, qualified workers," says Woods, whose company is headquartered near Hartford, CT. "We do the training ourselves."

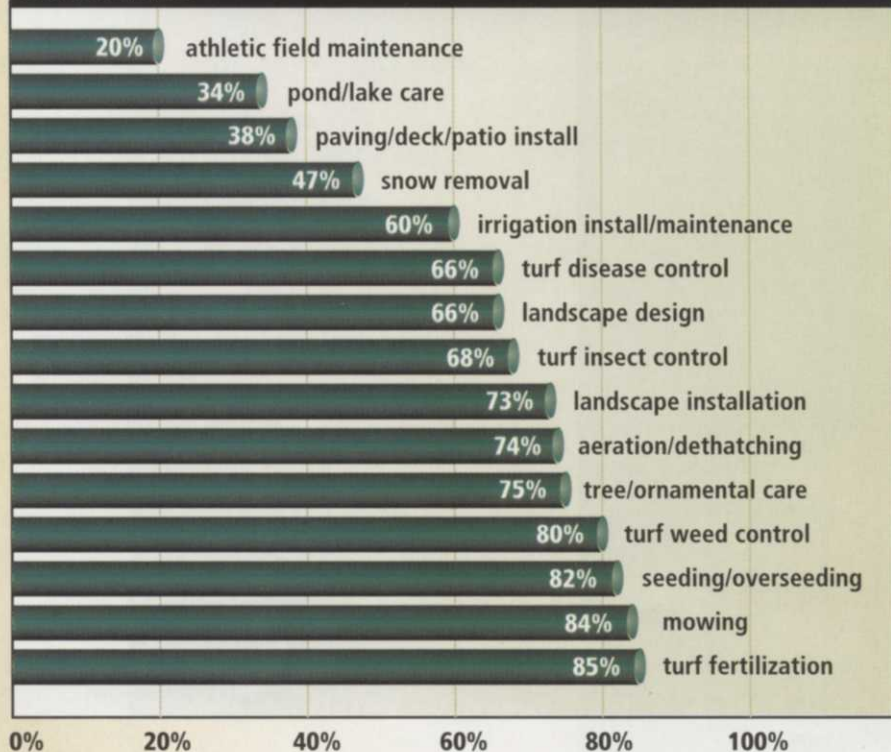
Woods has also had good luck with college students as summer workers, although they're rarely available early in the season and leave before it's over. "Our biggest problem is finding people with transportation and legitimate drivers' licenses," he says.

Pay vs. quality of work

Landscapers are always debating the relationship between pay and work quality, and 1998 is no exception.

Russell Schmidt, president of Schmidt Landscaping, Hillsboro, MO, says he used to believe that paying more brought in better workers,

SERVICES PERFORMED IN 1997 BY LANDSCAPE/LAWN CARE COMPANIES



but "now I think it's in how you treat people, above and beyond money," he says. "I take a keen interest in my employees' families and provide good benefits, vacation time and so on."

Christiansen's company is "right in the middle of the heap" in terms of salaries, he says. To him, the relationship between pay and worker quality is proportional. "The good ones will move on (if you don't pay enough). What I dislike about our industry is that we lose good guys due to the seasonal nature of our work," he notes.

"We do snow removal in the winter to keep some of those people with us."

"Right on target," is how Woods describes his company's pay scale. "I communicate regularly with five or six other local companies to see where they are on pay rates, and try to be consistent with them."

"When I was younger, I thought there was a direct correlation between paying more and getting good work," says Woods. "As I get older, I'm less convinced of that relationship. If someone is doing a poor job, more money won't change them," he adds.

Purse strings a bit looser

Client purse strings are loosening up, says Moore, but not too much, landscapers tell LANDSCAPE MANAGEMENT.

"It's not like the 1980s, where you could ask almost any price and get it," says Moore. "The only way you

can justify price increases is by providing added value and personal attention."

Budgets are a mixed bag, says Woods. "General contractors shop the budget to death, although they are seeing the results of that approach; you get what you pay for. Saving \$5,000 on the price may cost the client or contractor \$10,000 in the long run. We just stop bidding on the work if the contractor has that attitude."

His company often gets urgent calls to fix something or step in when a client realizes that his bid translates to better-quality work, Woods

notes, but "I'm not a gouger. I'm looking to build ongoing relationships, not do one-time projects."

"I used to be fiercely competitive, but I realized that everyone was a lot happier if we worked together," says Bruner.

"Now I have several colleagues in the landscape industry and we share business, employees and equipment as we need."

Diversification

Pressure of the marketplace can push companies into trying to offer more services than they can maintain at a quality level, contractors tell LM.

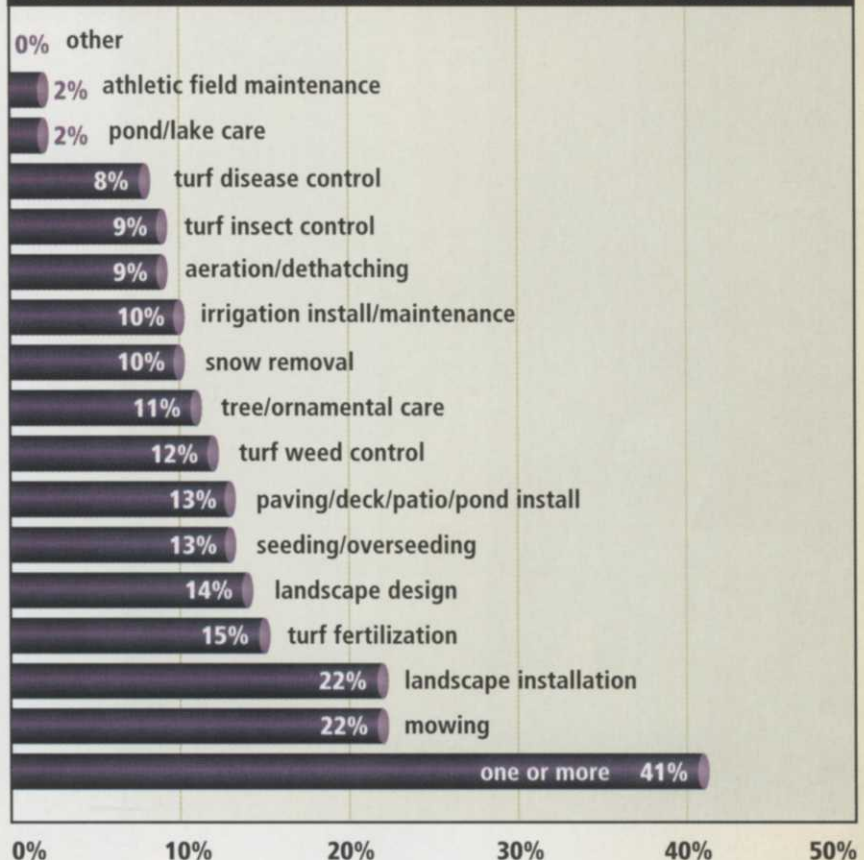
"Our company has a retail garden center, design/build team and pretty large maintenance division, so we are diverse to an extent," says Woods.

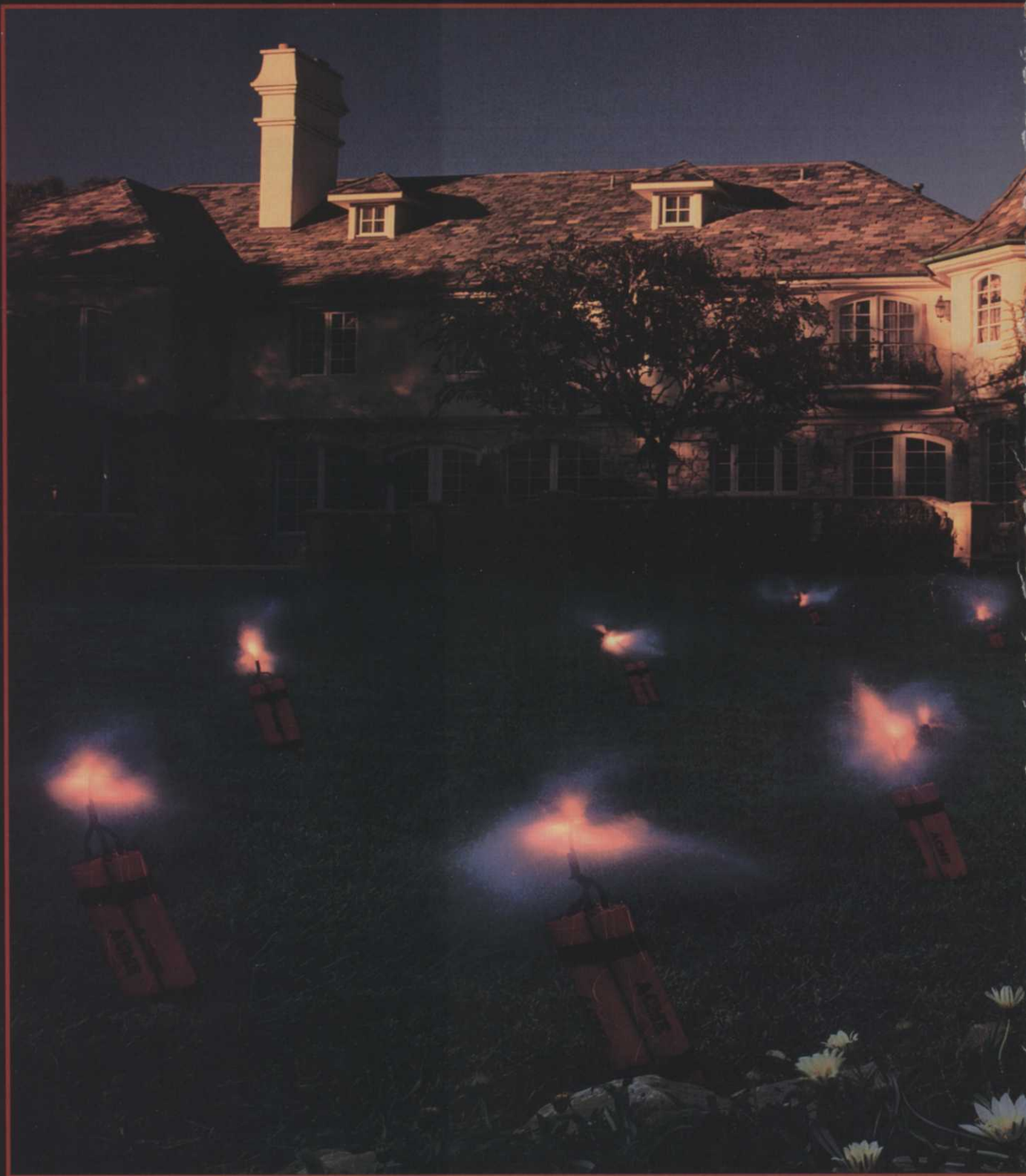
"There are limits, though. We don't do any tree work or irrigation. We refer that to others," he says.

Woods' company has found a lucrative niche in golf course work, rebuilding bunkers, tees and providing maintenance, reconstruction and modification.

"It's a tough business to break into. Golf course superintendents tend to think of the courses as their own

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STATE OF THE INDUSTRY

homes and you have to get work by word of mouth." He secured a contract when the Professional Golfers Association (PGA) came to town in 1990 and since has parlayed that into work for the developer that owns property abutting the golf course and with the Jaycees, who run the tournament.

"This started out as a small

"Diversity is a good thing," he says. "Sod, trees, concrete, snow removal; I do everything. It's how I became successful."

Distributor relations

The LM survey revealed that many industry members use more than three distributors for their equipment and materials.

Woods does use several distributors. "That happens

buying from their competitors. I believe in spreading the wealth and don't like to burn bridges with any distributors."

On the other hand, "I can't say enough good things about my vendors. They're always there, providing training and service. Without their dependability, I wouldn't be where I am."

Moore also only uses a few "preferred" vendors for better service. "We test-market early every spring and late in the fall to comparison shop and make sure our vendors are cost-effective," he adds. It works: "We are getting what we need, for the most part. Our distributors give feedback and ask what they can do to work out any problems."

Bruner also uses several different distributors. He buys seeds and fertilizer locally to save on transportation and storage costs. On the whole, he says, he gets the service he needs. "If you have a breakdown, price is meaningless," he notes. "Most people in business for a number of years have learned that there is a real obligation to be of service to their clients; if they don't meet it, they'll be out of business."

A healthy industry

"The industry is quite healthy, although I'd like to see the quality of help improve. It would make life easier," says Woods. "Some companies must be on Planet Mars. They charge so little that they simply can't do the job and that makes everyone

in the industry look bad."

"I don't see anyone starving in our area," says Schmidt. "The amount of work I turn down is staggering. My concern is with people who take work they can't do, don't show up or otherwise make the industry look bad, which creates ill will. What also needs work is involvement in trade organizations. We all should get involved and leave our petty differences behind. It aggravates me when I see people who aren't sharing information."

To Christiaansen, the industry is growing and healthy, but "the lack of accepted standards in techniques is a real issue. I think we're kind of wishy-washy in that arena," he says.

Moore finds the industry "basically healthy, but with lots of room for improvement." He feels that consolidations will increase the level of professionalism in the Green Industry and reflect a positive trend of moving the industry from being "a sort of cottage industry," providing more standardization and visibility.

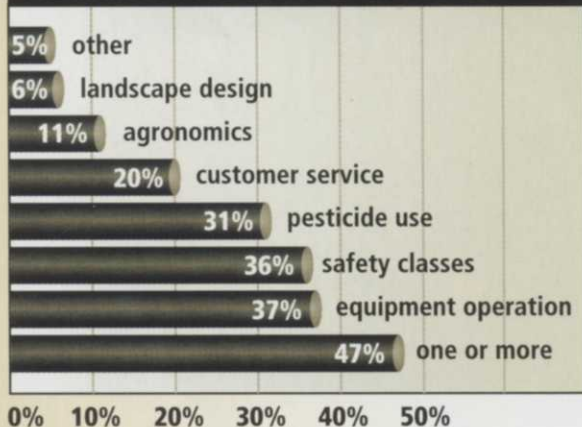
Survey data by Readex, Inc.

State of the Industry survey

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TYPES OF LANDSCAPE-RELATED TRAINING PROGRAMS OFFERED



job for the tour and ended up a major business," says Woods. "We saw an opportunity and took on something nobody else wanted."

Schmidt says, "Smaller companies are dying on the vine because they are trying to do too much. It's easy to get locked into thinking that you've got to do everything for your customers or they will find someone else who does; it's hard to say 'no' but you have to know your limits."

Skradski says it's impossible for the industry to ever become "too diverse."

with chemicals, because we buy them through stores and need variety," he explains.

"With a garden center, we have to be diverse. We have to get plant material from the West Coast if we want to make money on it."

He deals with one Case dealer for equipment and one sod dealer, because of great service.

That service element is critical. "I don't just shop price, although I wouldn't pay a premium," he says.

Schmidt has several distributors. "Most know I'm also

Parks, grounds pros gain in smarts

Skillful grounds managers insist on training and technology to raise recreation grounds management to a higher level.

By ROBERT E. REAVES

The parks, recreation centers and sport complexes of today are experiencing exciting growth and quality improvement thanks to training, technology, emphasis on quality and smart management. The state of this industry segment is strong. The old image of the custodial groundskeeper has changed, attracting many new sharp and skilled people.

More certification, training

A strong commitment to training continues to enhance

the professionalism and safety record of the parks and recreation industry. Most budgets now include training for both full-time and part-time employees. Why is that? Much of the reason can be attributed to federal and state regulatory agencies that mandate safety training.

However, there's more to the story. The parks and recreation industry has learned that training and certification equals professionalism, quality improvement and employee career enhancement. The Irrigation Association (IA) and Professional Grounds Management Society (PGMS) have played a major role in getting this message across.

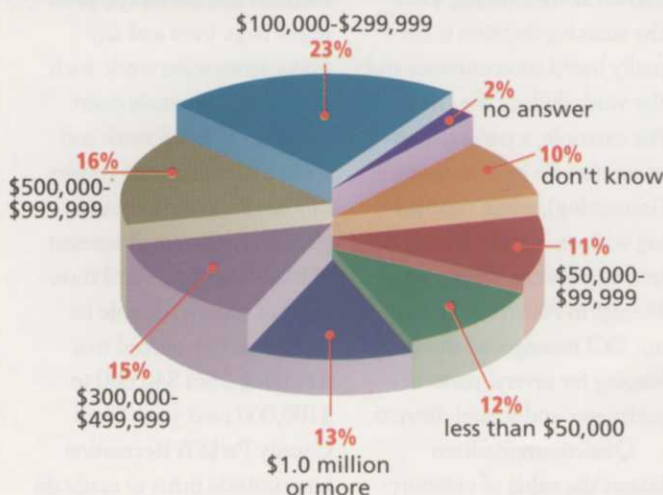
David Chapman, Parks Superintendent for the City of Tallahassee Parks & Recreation District believes in training. We've been sending our employees to classes in communication, conflict resolution and planning, as well as sponsoring a Floyd Perry seminar. Each year employees in our horticultural division attend Disney's Color Magic and the Spring Garden Expo at Callaway Gardens. Chapman tries to utilize every training resource possible, such as the Florida Cooperative Extension Service and the Tallahassee

Training Institute.

Tom Dew, Superintendent for Landscape & Pavements Maintenance at Texas A&M University at College Station is another big proponent of training. Not surprising, Dew is also the Southwest Regional Director for PGMS.

"Right now we are looking at the PGMS Groundskeeper Certification Program," says Dew. "We also take several benchmarking trips each year to other campuses and places like Moody Gardens in Galveston, TX. Benchmarking allows us to measure ourselves

1997 ANNUAL BUDGETS (FOR LANDSCAPE, LAWN CARE, GROUNDS & GOLF)



Dew: workers will leave over 50 cents, but Texas A&M crew is stable, efficient.

against others in order that we can improve our quality."

"We have \$20,000 in our budget earmarked each year for training," says Chuck Ainsworth, Park Project Coord-

STATE OF THE INDUSTRY



Shorney: good benefits attract 50 applicants for one job opening.

director for the City of Fort Collins, CO, Parks Division. Right now we are stressing certification in landscape maintenance, irrigation and backflow testing for our full-time people." Crews will train seasonal workers. Each seasonal employee has a half-day of training. About every second Thursday is held training sessions on safety, equipment, restroom maintenance and playground equipment.

"We have a horticulturist on staff that goes out to each of my zones and conducts training. The same goes with

our own irrigation specialist who trains our irrigators," explains **Jerry Royther**, manager of parks for Clark County in Las Vegas, NV.

"For safety, we utilize OSHA trainers as well as training materials on the equipment we buy. We also ask the manufacturer or distributor to come in a train our people

when we buy a new piece of equipment."

"Our safety training continues to be very positive. We've seen a marked reduction in the number of severe accidents, adds **Jerry Shorney**,

Sr., Superintendent of Operations and Lincoln Parks & Recreation in Lincoln, NE. We have our own safety committee made up of employees from every area of responsibility. This committee reviews all the accidents over the past month and recommends ways to eliminate injuries."

Outsourcing

More and more parks & recreation departments and sports complexes are turning to outside landscape management companies to maintain landscaping. This trend is called industry consolidation or outsourcing. One such company is Environmental Care, Inc., based in Calabasas, CA. When a client does not have the time or the skills to perform landscape management, they use outsourcing to get the job done, says Tom Moore, vice president of Environmental Care, Inc.

Co-sourcing combines strengths

A middle-of-the-road approach to outsourcing is known as co-sourcing. Here the sourcing decision is normally based on economics and the work skills of the crew. For example, a parks department may do its own mowing (insourcing), while contracting with an outside firm to do tree care (outsourcing), adds Moore. In Northern California, ECI manages all the landscaping for several parks departments and school districts.

Qualcomm Stadium knows the value of outsourc-

ing. "We use outside management companies to maintain the trees and outside perimeter landscaping. In many cases, these firms offer better economics and better quality," explains Wightman. "We have very busy stadium with an event every three days. Outsourcing gives us breathing room. However, when it comes to the sports field industry, Wightman does not see the complete elimination of the head groundskeeper.

Tallahassee Parks & Recreation Department has contracted with a local pest control firm to handle all of its major pest control needs for the past three years. We started this because we found it more cost effective, since much of the work had to be done at night, says Chapman. We also use a tree service firm for our electrical line trimming and contract out mowing and all routine maintenance at two of our smaller parks.

Fort Collins outsources medians and parkways, pruning of large trees and any major renovation work such as asphalt and tennis court resurfacing, fence work and some major irrigation repairs. Lincoln Parks & Recreation contracts out a small amount of island and boulevard mowing, but plans to double its budget on outsourced tree trimming from \$40,000 to \$100,000 next year. Clark County Parks & Recreation hires outside firms to maintain

Common themes across the USA:

- ▶ Green industry is healthy;
- ▶ Part-time labor is the foremost concern;
- ▶ Outsourcing and cosourcing on the increase;
- ▶ High emphasis on certification and training;
- ▶ Multiple number of distributors used;
- ▶ Distributor selection usually based on lowest bid;
- ▶ Good wages and benefits attract and retain employees;
- ▶ Land acquisition for new parks and sport complexes on the increase;
- ▶ More greenbelts and natural no-mow areas decrease crew workload



Wightman: formal training supplemented by weekly 'tailgate' meetings.

right-of-ways and other situations where it makes economic sense.

Business with suppliers

For parks and sports complexes that fall under local and state government jurisdiction, bidding by chemical and equipment suppliers is a way of life. We use many distributors, probably a total of 30, says Wightman. "Price is number one, but if a distributor is providing poor service, we go somewhere else. But for the most part, I'd say our distributors are holding up their end of the bargain."

Lincoln Parks & Recreation has around 14 vendors.

"Our distributors generally give us very good service. If they don't, we deny them from bidding next year," says Shorney. He says distributors are required to supply Material Safety Data Sheets (MSDS) for all deliveries.

Equipment vendors are asked to supply some training and supply a video on servicing the equipment.

Fort Collins deals with many vendors five irrigation distributors and five seed and chemical suppliers. In the past, not everyone carried the same products. Now, more and more distributors carry most all items even the same brands, adds Ainsworth.

"Don't let distributors rest on their laurels and assume they will continue to get your business. A distributor should add value by keeping you informed about price increases and reductions, new products and information about the green industry."

Ainsworth says much of the training offered by distributors does not meet the crews needs, comes at the wrong time of year or is redundant.

Not everyone deals with large numbers of vendors, as is the case with Tallahassee Parks & Recreation.

"We've become more comfortable with certain distributors and brands," says Chapman. "We get most of our fertilizer from one distributor and have a preference for one brand of mowing equipment which we buy from usually one distributor. Right now we have three different irrigation distributors and prefer to have fewer."

Regional factors

If you talk to different parks departments and sports complexes in different regions

of the country, you'll notice that each has its own challenges or factors that make life easier. In Las Vegas, the biggest challenge stems from a booming population growth and 24-hour activity. This places an extra burden on the parks department with no room for sports field rehabilitation.

In Nebraska, property taxes are a big issue. This has led to a reduction in budgets throughout the state. Downsizing is another big challenge at Lincoln.

"During the early 1990s, we lost about 36 percent of our full-time staff, while at the same time we had a 54 percent increase in the number of acres we manage," says Shorney.

"It's just the opposite story in Fort Collins, where budgets are strong," says Ainsworth. We are in a boom area. Money is fairly flush for the city and we've been able to keep up with the need for new parks, explains Ainsworth.

Sometimes the makeup of a city can make things easier for a parks department, according to David Chapman.

"The areas strong economy allows us to maintain our budgets with a highly-skilled labor force," says Chapman.

The future

Pressure from insurance companies and lawyers will continue to nudge districts into upgrading sports facilities.

"The trickle-down effect

from major league to little league facilities will continue to generate activity in playing field renovation," comments Wightman.

"Our industry needs to come up with new and improved plant materials," says Ainsworth. "In the desert Southwest, many plants have been taken off the approved planting list because of allergies, leaving us with a limited list of plant materials. We need more deciduous trees and new grasses that can withstand the high temperatures of the desert. We also need bermudagrass varieties that spend less time in dormancy and more time in active growth, says Royther. This could help us decrease the amount of overseeding.

"The Green Industry is booming," says Jerry Shorney.

"City planners will continue to look at adding additional green space and trails. Natural trails will continue to be a huge issue in new subdivisions. However, I believe there must be a public acceptance of no-mow areas and less formal landscaping. We would rather maintain one or two areas very well than six areas that are just average."

*Survey data by Readex, Inc.
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STATE OF THE INDUSTRY

Golf industry booms, supers step up

Golf course management is a business today requiring individuals who can make good decisions, people willing to learn science, motivate and manage people and keep an eye on the bottom line.

By BRUCE SHANK

Salaries for superintendents are rising as success in the field is based increasingly on a combination of experience, management performance, education and certification. Ironically, there is less job security as golf courses attempt to meet higher standards to maximize play and membership fees. Today, even the most recognized superintendent faces the harsh realities of the "Business of Golf."

The universe is expanding!

There are about 16,000 courses at 14,600 facilities serving 26 million golfers in the United States, says Jim Kass, research manager for the National Golf Foundation (NGF). Last year, 429 new golf courses opened for play.

"This level of growth is expected to continue into the next century," Kass says.

Course renovation is up dramatically as well. Golf course architects spend much of their time on refining or expanding older courses. The renovation effort has been helped greatly by the financial and technical expertise of management companies such as American Golf Corporation, Club Corporation of America, Environmental Golf and others. Management companies are estimated to own or operate nearly five percent of all golf facilities in the US and the percentage continues to grow. Group buying and volume sales discounts are tilting the scale in favor of management companies.

As the industry has expanded, so has the Golf Course Superintendents Association of America (GCSAA), the certifying agency of the industry. Roughly two-thirds of all golf facilities have a

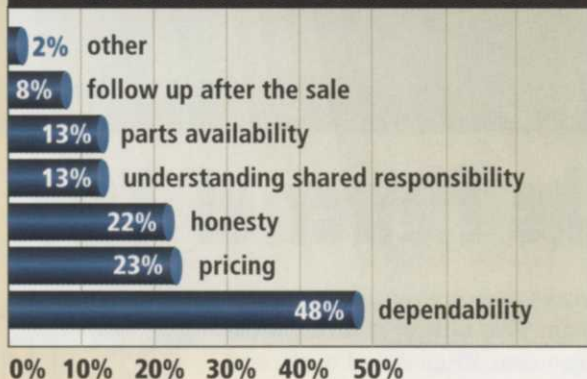
GCSAA member as superintendent, and 100 are currently enrolled in the association's certification program, either as certified or working toward certification. A total of 1,677 GCSAA supers now carry the CGCS appellation.

The United States Golf Association (USGA) protects the rules of the game in the U.S., and provides a means of comparing golf courses through its slope rating system. For this purpose, the USGA lists 8,300 courses in its Yearbook. The organization also provides a turf advisory service and regional seminars for superintendents through the USGA Green Section, in the USGA's Far Hills, NJ headquarters. According to James T. Snow, national director of the Green Section, 1500 superintendents used the advisory service in 1997.

Despite the growth of golf, the educational support system at four-year public colleges and universities for the golf industry has not grown since the 1970s. Two-year associate degree programs have picked up the slack in some states.

Clearly, the value of superintendents capable of handling the challenges of today's

FACTORS CONTRIBUTING TO GOOD DISTRIBUTOR/END-USER RELATIONS





fast-paced golf industry is rising. Those who are professional and knowledgeable are promoted rapidly. But those who rise the fastest have a grasp of both turf *and* business management.

"Many people don't have an accurate concept of what a golf course superintendent does," says Paul Latshaw, Jr., superintendent at Merion Golf Club, Merion, PA.

"He is the CEO of a multi-million dollar operation who is responsible for budgets, personnel, scheduling, purchasing and productivity, in addition to the final product."

After starting his golf course career at age 12, the second generation superintendent earned a four-year degree in business at Penn State prior to enrolling in the school's reputable turf program. Now, Latshaw works on his masters degree in management at Rosemont College in-between the six-day weeks managing the 36 holes at leg-

endary Merion.

Science and stewardship

On top of running a business, today's leading superintendents are leaders in environmental stewardship.

"We are doing a better job with fewer chemicals, less water and more responsibility," says Paul Cushing, superintendent at Granite Bay Golf Club near Sacramento, CA.

"When environmentalists asked for our cooperation, they not only got compliance, they got leadership. The reason we can do these things is because we have advanced our technical knowledge to the point that we recognize problems, prevent them when possible and cure them at the right time. By understanding science, you are able to balance one scientific challenge with another. If you look closely at the Top 100 courses in this country, you'll find a solid foundation of science."

Cushing views golf course management as a mixture of

business and science.

"You apply science to meet business objectives," he adds. However, you can't apply this science all by yourself, he warns. You have to train your assistants and crew to do it. Furthermore, you alone have to meet the bud-

The landing area to green #13 at a Tom Fazio course at scenic Barton Creek in Austin, Texas

ertain areas during the 1990s. Credit is easy to get in the golf industry. Two strong golf markets have led the way during this decade: Florida

Those who rise the fastest have a grasp of both turf management and business management.

get. And, since no man is an island, working closely with other superintendents is very wise.

"It boils down to soil science and personal experience," says Cushing. "How do you make your course appeal to a wide spectrum of golfers, attract tournaments, and satisfy members?"

Easy credit industry, big audience

Real estate has provided octane to the golf market in

and Texas. While the PGA, Nicklaus, Palmer and McCumber kept Florida hot with construction, Hogan, Crenshaw and Kite kept the Lone Star State in contention. The Hogan Tour became the AAA of golf with tournaments hosted by courses across the country.

More tournaments mean more opportunity for superintendents. With the PGA and Hogan tours healthy, and the seniors and LPGA getting

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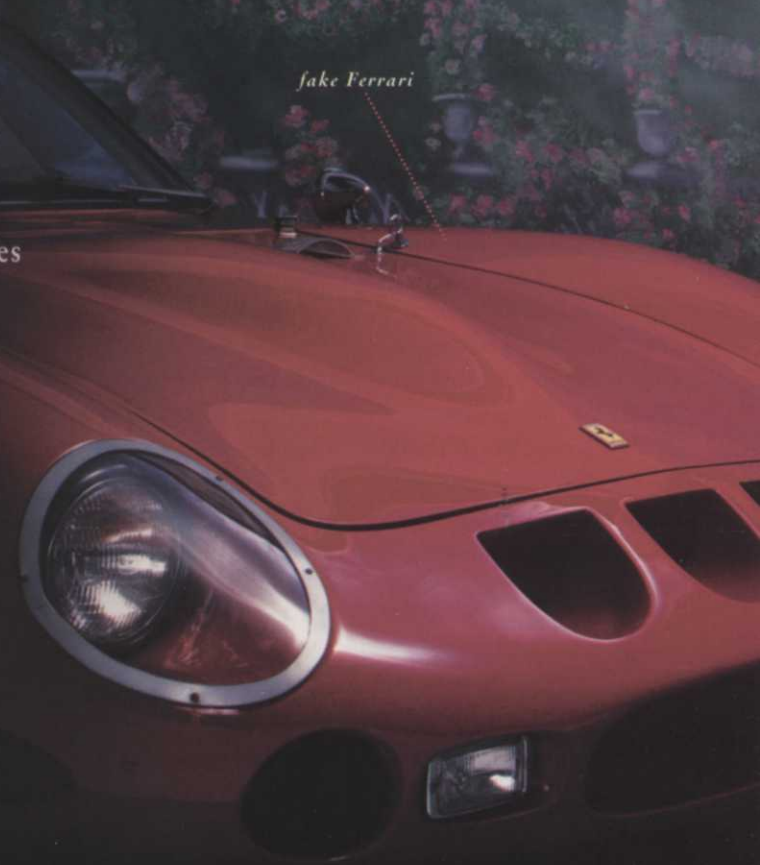
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STATE OF THE INDUSTRY

pretty powerful, there are more ways to get your course on television. Rankings mean more, and compliance with tournament guidelines is paramount. Smart golf professionals know the rules and that superintendents make tournaments successful.

A golf pro who found a home as a golf course superintendent in Texas is a great example of golf in the '90s.

"It took four years for me

to be a golf pro. At the age of 18, I got a job on the crew. When the superintendent I worked for didn't get a job he wanted because he lacked a college degree, I woke up. I applied to Texas A&M and devoted my career to being a golf course superintendent."

Miller hit the fast track, building and growing-in signature courses from Arnold Palmer-designed Hidden Hills in Austin to Marsh Creek in

Hills in 1991. The development-based project included construction of three more courses, one by Ben Crenshaw and two by Tom Fazio. Two are complete with the second Fazio course opening soon.

The disadvantage of real estate courses is the uncertainty of the golf course staff once the homeowners take possession of the course following buildout. CCA not only provided the expertise to build the additional courses, but provided security for the staff following buildout.

A big part of that security results from management. By operating the courses more wisely, CCA turned an annual loss into an annual profit. Miller reduced costs by almost 20 percent without a loss in quality.

"When we're done, we'll have 90 holes operating as a unit. That gives us buying power and economies of scale."

Whenever there is a problem he can't solve, Miller calls CCA's Resort Group Superintendent Brad Kocher at Pinehurst. He also maintains close ties with experts back at Texas A&M to help him solve soil and other lab questions. When asked if he had to

choose between attracting a tournament and staying within budget, Miller didn't hesitate to pick the latter.

Management company clout

At the same time, it takes financial clout to keep a golf course competitive.

An example is the Tony Lema Golf Course in San Leandro, located on the eastern shore of San Francisco Bay between San Jose and Oakland. Poor soil, sodic well water and a municipal budget were restricting the potential for this course located just north of the Silicon Valley. Superintendent **Ken Schwark** has the knowledge, having built Oakhurst in Clayton and other high-end courses, and served country clubs across the country as superintendent and a soils specialist for Brookside Labs.

"This course is the only one in the area and there is no land to build more," says Schwark. There were tough decisions to make and a lot of investment required for Tony Lema to reach its potential. San Leandro wasn't prepared to take such steps on its own. In the end, the decision was made to let American Golf Corporation take over the course and make the changes.

In the coming months,



Miller cut costs by 20 percent with no loss in quality of work.



Granite Bay GC: (l. to r.) Paul Cushing, superintendent; Erik Ostlund, Kyle Dystra, assistants

to become a scratch golfer," says Dale Miller, director of golf course maintenance at Barton Creek, Austin, TX.

"There was no place else I wanted to be other than on the golf course. At first, I tried

St. Augustine, FL., to Trairborne in Durham, NC. It was Hidden Hills, later to become Barton Creek, that beckoned Miller home to Texas. Club Corporation of America (CCA) took over Hidden

Tony Lema's current 27 holes and another nine-hole executive course will surround a new conference center and hotel with 200 rooms, made possible by a \$9 million investment by AGC.

Things have already changed. The crew was enlarged from eight to 22, largely by advertising in a local Hispanic newspaper. Schwark and AGC Regional Manager Mike McCraw, have laid out a plan and have started to implement it, from employee training to new irrigation.

"This would not have been possible without the resources and expertise of American Golf," admits Schwark. "They are looking at what's best for the course 10 to 20 years from now, not from the standpoint of protecting government employees. If the course doesn't succeed, those jobs will disappear anyway."

"A golf course can take a lease agreement with AGC to a bank and get a loan for needed capital," explains Mike Heacock, the company's regional manager for Southern California. "That can solve lots of money problems facing all types of courses."

Developers with capital can achieve some of the same economies of scale as management firms.

"When a golf course helps sell the real estate around it, there are no excuses for not being top quality," states Matthew Taylor, superinten-

dent at Bonita Bay Club in Bonita Springs, FL.

"That doesn't mean money is no object. Instead, it means you must use money wisely in a competitive environment."

Bonita Bay is a 2,400 acre master-planned community consisting of five Audubon-certified golf courses. Three of the courses: The Marsh, Bay Island and Creekside were designed by Arthur Hills. Tom Fazio designed the Cypress and The Sabal, which are located on 1,400 acres just 20 minutes from Bonita Bay. The Sabal is under construction, due to be completed by the end of October.

Taylor graduated from Lake City Community Col-

lege and apprenticed under Superintendent Tim Hiers at Collier's Reserve. Taylor is working on his certification.

The Hispanic effect

Spanish speaking personnel make up 20 to 80 percent of golf course crews across the nation. In many respects, Hispanic labor has enabled golf to progress to a higher level. Although to the definite disadvantage of unionized crew members, courses can hire nearly two Hispanic laborers

for the wage of one former crew member.

"We have to face the fact that much of our progress has come from being able to reduce labor costs," admits Schwark.

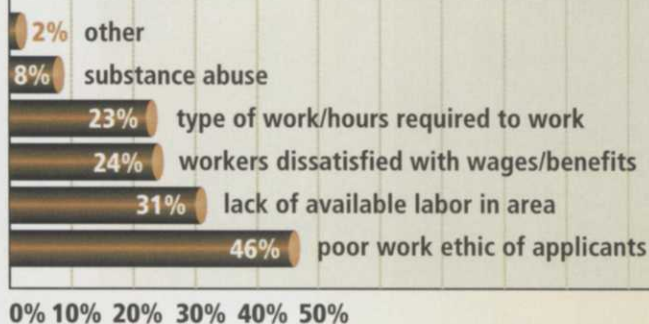
"That would not have been possible without a skilled labor force ready to work for less."

Digital reality

Increased knowledge and use of computers is another reality of today's superintendent. Almost all functions of operating a golf course, from scheduling tee times to syringing greens, requires a computer. E-mail enables superintendents to chat with their peers over the internet, and virtually every association and supplier has a web site.

*Survey data by Readex, Inc.
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REASONS FOR DIFFICULTY FINDING/RETAINING WORKERS



Taylor: use money wisely in competitive environment.



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STATE OF THE INDUSTRY

Active associations get member 'OK'

Activism motivated by need for fair legislation is appreciated by memberships at both local and national levels.

By JAMES E. GUYETTE

Associations that serve lawn/landscape professionals are generally considered to be healthy, productive and cost-effective. Business owners say they appreciate the opportunities that they offer for talking shop with their colleagues. They equally appreciate their role in monitoring and dealing with government regulations.

"They benefit the industry in general, and that's the return-on-investment I'm looking for," says Kevin Killmer, president and CEO at Environmental Earth-

scapes Inc., dba The Groundskeeper in Tucson, Phoenix, Las Vegas and Palm Desert, CA.

"They provide networking opportunities and they provide credibility to our profession," says Killmer. "Goodwill and

public support is important." Killmer is most concerned with laws involving immigration, pollution, and noise involving outdoor power equipment. Thus, the Groundskeeper holds membership in both national and regional green industry organizations.

Killmer says that associations give the industry its voice. "We've been successful in getting state and local governments to acknowledge our plight," Killmer says.

Members of the Nevada Landscape Association (NLA) have had a similar battle. For example, some legislators in Nevada object to the very notion of having lawns and shrubs. The NLA has worked to help educate them otherwise. While the NLA supports water conservation, in general, it opposes restrictions on the planting of lawns and ornamentals.

"We've worked to have a role to play over water restrictions," reports NLA president Paul Flint, owner of the Reno-based Lawns, Etc. "It's served

us exceedingly well here."

Oddly enough, in some parts of Nevada there are laws still on the books that prohibit even the installation of water meters. The NLA is pushing for the metering of water use; then people who want green in their yards can simply pay more green for the privilege. "We're currently taking steps to implement that plan," says Flint. "On a cost-benefit basis there's so much more that we can gain with local organizations."

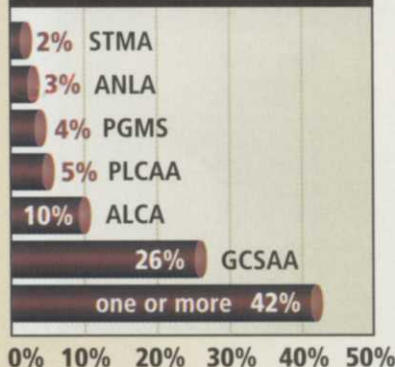
Having the backing of a national organization is a big boost for Daryl Kirkland, Better Lawn and Garden in Phenix City, AL. He values his membership in the Professional Lawn Care Association of America (PLCAA). "Being affiliated with PLCAA helps solidify my company and make it a better operation," he says.

Kirkland reads all the PLCAA mailings to keep abreast of equipment technology and advances in chemical developments. And he uses the PLCAA logo and that of the Alabama Nurserymen's



Amstutz: in PLCAA at start of company.

MEMBERSHIP IN GREEN INDUSTRY ORGANIZATIONS



Association to advertise his company's commitment to excellence.

PLCAA is a valuable resource for **John Wagner**, of the GreensKeepers Inc., Muscle Shoals, AL. "They've helped me to make the transition from the golf course to lawn care," says Wagner a former golf course superintendent.

ALCA is appreciated in Erie, PA, where **John Allin** employs more than 40 year-round employees at his Allin Companies landscaping and snowplowing enterprise. "It has raised our level of professionalism several notches since we joined five years ago," he says.

"The first time we visited one of the shows we got an eye-opening experience as to how the other companies see themselves as professionals, and we have changed our opinion of ourselves," Allin explains. The workers now strive to win ALCA safety awards, management's marketing strategies are more coherent and employees' attitudes are more business-like and client-oriented.

"The money we spend (on dues, traveling and hotels) is minor compared to the return that we get; ALCA satisfies my needs in a big way."

Allin has also been instru-

mental in forming the national Snow and Ice Management Association, based in Erie, PA. The association offers information on how to run a profitable winter business.

David P. Harris of Illinois is considering joining ALCA after 18 years in the lawn care industry. He previously belonged to PLCAA, but has since sold his Liqui-Green Lawn and Tree Care and focused his attention on the Bloomington-based Harris and Associates, a design-build firm.

"ALCA looks pretty good to me so I'll probably be joining that," Harris says. "I don't join associations unless I think it's necessary," he says adding that PLCAA served him well in lawn care. Opportunities for networking, attending seminars and walking the trade show floor are significant, and Harris especially values the roundtable discussions featuring out-of-town businesses owners and their insights.

"And you weren't giving away trade secrets to your direct competition," he says.

Education is what **Becky**



Harris: valued PLCAA membership

Turner wants from the Perennial Plant Association.

Turner. "They cover the whole gamut of growing, maintaining and selling," says Turner who owns Perennial Point in Wilkes Barre, PA.

The green industry can use some sharper teeth

when it comes to policing its own ranks, according to

Michael Martin, commercial division manager at Outside Unlimited Inc. of Hampstead, MD. "I think there needs to be some kind of governing body that looks over the industry," Martin says.

"There should be some type of industry standards to regulate lowballing and other aspects of business competition."

Nothing extreme, mind you, but Martin suggests that some sort of ethics system is needed. "I don't want to have 'Big Brother' looking over our shoulders, but sometimes things are too loose." A plant inspection or certification program would be helpful to review the problem of too-small root balls and other aspects of unfair competition, Martin believes. "If I'm putting in a 2-inch caliper

maple, I want to see somebody else's 2-inch caliper maple look the same way."

Allowing established business owners to share their expertise with up-and-coming landscape managers via PLCAA's new mentoring program is great idea, says **Dale Amstutz**, who owns Northern Lawns Inc. in Omaha, NB. "They're lining up people to help each other," he reports.

The association-based contacts and friendships formed by Amstutz have been a great

help to this industry veteran. "I think we were in business one year when we started attending, and I haven't missed a national meeting since," he says.

To Amstutz, anyone in this industry—even a start-up operation—should be-

long to associations. "This is not the place to cut corners," he advises. "That's a lot of money for a small business to shell out, but once you go you'll find yourself coming back year after year."

"It's not a direct business profit and loss type of thing. You've got to go with an open mind and a willingness to make things happen," he points out.

"You have to be out there shaking hands and passing out business cards."



Flint: devotes energies at state level



Allin: ALCA a big help to his firm

High tech, high touch

Dow AgroSciences interacts with landscape professionals in an on-going commitment to industry innovation

By BRUCE MIEHLE, Marketing Manager, Turf, Ornamental and Technical Products, Dow AgroSciences

A seedling unfurls new leaves — leaves that are genetically engineered to resist damaging pests. A team of scientists invents a compound designed to prevent insect damage in landscapes while minimizing risk to the delicate natural balance of the environment. These discoveries are made in the laboratory.

Thousands of miles away, at an East Coast research site, another scientist converses with a landscape professional. They're talking "residual," "callbacks" and "split apps." These discoveries are made in the field.

The success of Dow AgroSciences depends on the many interactions between these two forms of discovery — one "high tech" in the laboratory, the other "high touch" with communication and feedback in the field.

Innovations you ask for

For example, landscape professionals have long requested a new kind of pest control that combines superior efficacy with the benefits of biological controls. That was the impetus for Dow AgroSciences' recent introduction of Conserve* SC turf and ornamental insect control. As always, research that began in a test tube was taken to the

field — quite literally — as you told us what did and didn't work. In the end, we are as reliant on you as we are on the advancement of science. It is through you, the professional, that we discover new and better ways to improve our landscapes and serve your customers. Through the dual discovery of "high tech" and "high touch," we continue our commitment to commercialize one significant new product in a major global market each year.

Broader perspective

Our recent consolidation and name change further reflect this commitment to broad-scale discovery. On January 1 of this year, DowElanco officially changed its name to Dow AgroSciences, reflecting its new status as a wholly owned subsidiary of The Dow Chemical Company. This followed Dow's acquisition of Eli Lilly and Company's portion of what was once a joint venture.

Our name, Dow AgroSciences aptly sums up our strategic commitment to agricultural industries — from turf and ornamental, to crop production and urban pest control. At the same time, the acquisition strengthens our ability to fund new scientific discovery through our traditional pest control products and to bring you, the customer, the technologies needed to stay competitive in a changing market.

Also critical to this initiative is our

majority ownership of the biotechnology venture Mycogen, which researches, develops and markets genetically enhanced, insect-resistant crops. This collaboration will teach us even more about the science of agriculture.

'In Touch' through technology

In the end, it is clearly our ability to communicate that sets us apart. To spread the word about new discoveries, to be sure; but, more importantly, to listen to the real experts — the people who make their living with turf, trees and ornamentals.

Our new Web site now harnesses the power of the Internet so that we can continue the journey of discovery together. Not only does it serve as a quick, efficient tool for targeted information on products and usage tips, it also make our world a

little smaller by enabling every customer to communicate through cyberspace. And it can help to link you with more than 25 sales and technical support representatives dedicated to the industry.

As we approach the year 2000, we at Dow AgroSciences are confident that this marriage of "high tech" and "high touch" will help us to discover even more ways to put our innovations at your fingertips. Who knows what's ahead? We'll find out together.

*Trademark of Dow AgroSciences LLC



Bruce Miehle: customer response an important part of new product development

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Fertilizing annuals

*Keep your annuals in bloom—
ing health with sun, water
and fertilizer.*

By NANCY STAIRS/ technical editor

Anuals are a staple of the urban landscape. Their lives, however brief, are very productive. They bloom from the time they are mature until frost. In areas of no or mild winters (zones 8 to 24) some annuals will continue to bloom throughout the winter.

The key to a productive annual planting is to keep the plants growing steadily with water and fertilizer, and removing dead blooms.

Most annuals prefer full sun and well-drained soil, although there are some annuals which actually do better in relatively infertile soil, such as cosmos, gazania, nasturtium, portulaca and poppies.

When planting annuals, it is a common practice to mix fertilizer into the soil prior to planting. Incorporating fertilizer into the soil before installation helps the plants become established and produce flowers. At establishment, a complete fertilizer with a lower percentage of nitrogen and potassium and higher percentage of phosphorus can be mixed into the top two inches of soil. This initial application will generally provide sufficient nutrients for the first half of the growing season. However, a mid-season application of fertilizer will not only benefit the plants but will also extend the flowering period, with the annuals continuing to grow and bloom through the remainder of the season.

Soil that has been enriched with a good composting mixture will not generally need additional fertilizer throughout the growing season as the release of nutrients will be slower. However the compost may not provide the initial boost to the plants at the time of planting and the addition of a fertilizer product may be appropriate.

Post-planting feeding

If you don't incorporate a granular fertilizer into the soil before planting, give the plants an application of a complete fertilizer about two weeks after planting. A second application can be done about six weeks later and in warmer zones a third application may be appropriate another 6-8 weeks later.

When applying fertilizer the plants should not be limp and the soil should not be dry. Water thoroughly the day before and again after fertilizing.

Using a liquid fertilizer throughout the season is another option. This method of application is more expensive and must be applied more often, due to the fact that liquid applications are leached through the soil more quickly than dry applications. Follow the manufacturers directions, applying as often as every seven days to four weeks. Like granular fertilizers the proportion of phosphorus should be higher than the nitrogen and potassium.

Slow release fertilizers such as plastic-

sulfur-coated urea and others have potential for fertilizing annual beds. These materials are useful where you will not or cannot fertilize after planting. Generally, they last from 4 to 12 months in the soil. However, slow-release fertilizers are more expensive although they may reduce labor costs. Once these materials have been applied you have given up control of the fertilization program and, thereby, plant growth rates. You can choose to apply an immediate-release fertilizer mid-way through the season to boost flowering but that would make the increased expense of slow release fertilizers unnecessary. Keep in



This beautiful border of annuals will retain its vibrant color and health for months provided it receives sufficient moisture and the proper nutrition at the proper times.

mind that coated fertilizers may release more quickly when they are applied to the surface rather than lightly incorporated into the soil. This may be due to cracking of the plastic coat caused by higher temperatures or fluctuating moisture levels and UV light.

In general, most annuals don't require a lot of fertilizer and a couple of applications during the growing season are sufficient. Over-fertilizing will cause a buildup of soluble salts in the soil, especially if the soil is heavy, and can damage the plants. Thorough watering can help leach these salts away from the root zone to reduce future damage. When slow-release materials are used, excessive salts cannot be leached out since additional water increases fertilizer release.

Don't forget that removing dead blooms and seed heads will also go a long way in prolonging flower production of your annuals. **LM**

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FMC

Methods to stop moving soil

Erosion steals the Green

Industry's lifeblood, soil.

Here are some materials to minimize erosion's damage.

By NANCY STAIRS/
technical editor

Bare soils are vulnerable to soil erosion, particularly on steep slopes and long, uninterrupted slopes. Silty soils, fine sandy soils, soils low in organic matter and soils with an impermeable subsoil layer erode easily.

The loss of topsoil, organic matter and soil elements isn't the only effect of erosion. It makes slopes unstable, creates rills and gullies, and deposits soil in lakes, ponds and reservoirs. This limits the ability of vegetation to establish and worsens water quality.

Water can carry particles of soil in suspension. The faster the flow of water, the larger the particles that can be transported. The movement of water following the ice age provides extensive evidence of the power of water to transport and deposit large materials. In comparison, the meandering, twisting path of a river controls its erosive ability by slowing the speed of water flow, and reducing the size of particles that can be transported. The steeper the slope and the straighter the stream bed - the faster the flow of water and the greater the capacity for soil transport.

Even the simple action of raindrops has powerful erosive capabilities. An individual drop of rain may not seem serious but, when occurring in multiples, as precipitation tends to do, the effect can be devastating. Merely by dislodging a particle of soil,



Correct installation of materials is essential for successful control of soil erosion. Heavy spring rains devastated this newly planted roadside even though a fabric covered it.

the rate of erosion is sped up by releasing that particle for movement.

Slowing the movement of water is essential when dealing with site disturbance. Stripping a slope of plant materials or creating a slope composed of exposed soil, even temporarily, can be quite destructive.

There are many materials and methods available for slowing water movement, at least one of which is suitable for any slope maintenance situation.

Mulch resists erosion

Placing mulch materials helps mitigate erosion by reducing the direct impact of precipitation. Used in conjunction with seeding, mulch aids in establishment by conserving moisture and creating favorable conditions for seed germination when suitable application rates are used. Mulch materials include straw, hydromulch applications of wood cellulose fiber, or even wood chips, as well as

mulch matting.

Straw mulch provides good site protection and encourages plant growth. Straw is effective both in absorbing raindrop impact and in moderating the soil surface climate. Straw is inexpensive but must be anchored to keep it from blowing away. Fire hazard, weed growth and cleanup cost should also be considered.

Wood fiber, although not as effective as straw, is a weed-free, low-fire-hazard mulch and may require less labor to apply. Wood fiber will provide almost complete ground cover but does not have enough mass to absorb the energy of raindrops and flowing water. Wood fiber should be considered in situations where slopes are 2:1 or steeper; where vehicle access is limited to >50 feet (15 m); where weed growth or fire hazard may be a concern; or where mulch must be applied on a windy day.

Mulch can be lost from wind or runoff and should be anchored where slope or wind action may affect its usefulness. For straw, mechanical crimping or a tackifier such as asphalt emulsion or wood cellulose fiber are necessary. (A tackifier sets to form a protective skin which bonds to the earth yet allows penetration of moisture and subsequent growth of seed.) The use of mulch netting must also be considered to keep mulch in place on steeper slopes or where concentrated water flows occur.

Matting another option

Mat materials such as excelsior or jute, matting are used to stabilize easily eroded areas, while vegetation is being established. Consider matting for small sites in urban areas, steep slopes, highly erosive soils or where difficulties with vegetation establishment are possible. Matting isn't generally used alone but in conjunction with seeding.

Dense mats hold soil in place, absorb water and hold it near the soil surface. Less dense mats, such as chicken wire or plastic mesh, will hold applied mulch materials but will not provide any soil protection themselves. Mats must be installed with complete contact with the soil, otherwise

erosion can occur below. A layer of straw underneath a fabric increases effectiveness.

Two common matting products are Erosion Control Blankets (ECBs) and Turf Reinforcement Matting (TRM). ECBs are generally made up of natural fiber materials such as coconut fiber, excelsior or wood products, or jute yarn, and they are usually biodegradable. These products hold seeds and soil in place until vegetation is established. They also protect the soil surface from water and wind erosion and offer shade and heat storage, thus creating ideal conditions for seed germination. ECBs are commonly used on steep slopes, low flow channels and as a flexible bioengineering textile.

Turf reinforcement mats

Turf reinforcement mats are similar to ECBs, but also capture soil, to fortify or building up existing earth. TRMs are usually made from synthetic polymers or other durable manmade materials. They're used in stormwater channels, dams and dikes,



PHOTO COURTESY NORTH AMERICAN GREEN

Inexpensive straw mulch is often used with netting to increase the success of erosion control on some projects.

banks and shorelines, retention and detention basins and on steep slopes or swales. Although matting can be expensive, it is available in many different grades.

Hydroseeding valuable tool

In hydroseeding a slurry of water, mulch, seed, fertilizer and tackifier are applied together. Additional erosion control materials may also be included in the mix. The speed of application, particularly for large and or steep areas, can be an effective method to reduce soil erosion except in areas of point source discharge or concentrated water flow. In these situations, additional steps, such as the application of straw or the placement of mats, to further stabilize the slope and retain seed, may be appropriate.

Vertical mulching

In dry climates, hydromulching, or tackified or crimped straw may not be as effective as they are in areas with more seasonal moisture. In some cases, where moisture or irrigation is limited, vertical mulching may be a suitable technique. The placement of upright straw, sticks or brush upright in the soil will slow water movement, provide channels for water penetration, trap seeds and dust, shade and cover seedlings, and provide organic matter to the soil. Broom corn, straw, brush and reeds are suitable materials. **LM**



PHOTO COURTESY CALIFORNIA STRAW WORKS

Straw wattles can be used on steep slopes with low visual requirements to slow water movement. Soil particles are deposited, allowing vegetation to become established and stabilize the slope.



The 'Toxic Legacy' series in the Fontana Daily Bulletin blamed pesticides, air pollution and toxic dumps for death and illness.

Take action on local issues

A local issue has arisen that threatens your business or industry. The issue is primarily driven by emotion, not fact, and is gaining media attention. You have been asked to get involved. Here's what you do .

By PARRY KLASSEN

When a contentious issue arises in a community or

region, make personal contact with every potential ally familiar with the issue. Or-

ganize a meeting or conference call with all interested parties. This meeting should include persons or companies directly impacted by the issue, as well as those who could be impacted in the future. Benefits of a face-to-face meeting as opposed to a conference call:

- ▶ provides the opportunity to learn

where everyone stands on the issue;

- ▶ facilitates development of an action plan and gives moral support to those impacted by the issue. Other like-minded people find they are not alone in fighting an issue and that action is being taken.

Gather local articles written about the issue and related issues from other areas to distribute at the meeting. Gather published industry information to provide facts and background for letters, speeches and other correspondence.

Develop a plan

Begin developing a plan of action. This should contain several key points:

- ▶ Define your objective. An objective should briefly explain what the group aims to accomplish from a big-picture perspective. It should be a simple sentence or two that does not include specific tactics.

- ▶ Outline key audiences. Identify primary and secondary audiences to target for the most impact.

- ▶ Name allied organizations (current and potential), individuals, companies, institutions and government agencies that can provide support, ideas and make other contributions to the group's objective.

- ▶ Identify issue leaders. To the extent possible, identify one or two individuals (especially if you are not local) who will serve as local issue team leaders. These individuals will coordinate activities and organize meetings.

Self-made obstacles: how industry defeats itself

Don't let this happen to you:

- 1) Lack of willingness to be "out front"** Some people prefer not to lend their names or companies to an issue for fear of attracting negative publicity. There is always this possibility, but the result of doing nothing can be more damaging in the long run.
- 2) No support from would-be allies** Often, it seem that obvious allies will not participate in coalition activities. Efforts must be made to overcome reluctance.
- 3) Lack of momentum over time** The issue may "drag" over time, making it difficult to maintain high action interest by coalition members. Regular updates to the coalition will keep your members alert to the issue.

-PK

► Contact industry associations. Make sure all related trade associations are aware of the issue and its development. Include them in relevant correspondence

► Identify local experts who can provide information or support for the group's position on the issue. Experts could include county or state health officials, university extension agents and other third-party sources.

► Create messages. Use these in conversations, correspondence and to build support for the group's action.

Develop 'action items'

Media relations. If the issue is expected to have continued media coverage, organize a media visit to the local newspaper editorial staff (or local TV/radio stations if appropriate).

► meet with "editorial writers" if you want to have an opinion page editorial written about the issue.

► meet with the "editorial staff," i.e. reporters, managing editor, business editor, etc., if you expect future news coverage of the issue.

Editorial staff visits should be organized very soon after an issue breaks. Reporters need contacts, names of experts and sources who understand the group's position, to cover the issue fairly.

Send a thank you letter immediately after a media visit. If future coverage is balanced and/or favorable, commend the individual reporter for his/her fairness. If the contact is by letter, make sure to send a copy to the reporter's managing editor.

Letters to the editor. In the case of reaction to newspaper articles, organize a quick "letter to the editor" writing campaign. Ideally, these letters should come from local business people and/or concerned citizens. For the greatest impact, letters should be written immediately after an article runs. Everyone should write a letter.

Make sure to keep copies of published letters to use to build support. Follow up by phoning the newspaper if a letter is not printed. Ask for a reason why it was not printed.

Trade press contacts. Consider contacting the trade press to inform them of the

issue. Depending on the situation, the trade press can be a great ally in communicating to others in the industry about the issue and might help those in other regions of the country facing a similar issue.

Organize Community Relations. Many civic organizations (Kiwanis, Rotary, etc.) allow guest speakers to address meetings on specific issues. This can be an important way to reach community decision makers and business people. The "Ambassador Speakers Program" from ACPA and RISE offers assistance in giving presentations.

Set-up a timeline. After the group meeting, establish a timeline for completion of all assigned tasks. Set deadlines and assign people to complete the tasks.

On-going issue management. For a long-term issue, identify someone to be the key contact in the community.

This person can help coordinate correspondence, watch for developments in the issue, and serve as the go-to contact. This is ideally a local person with strong interest in the situation.

Exchange names/addresses. Develop a



The Green Industry needs to explain the benefits of healthy lawns, and give clear explanations of chemistry.

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Case study: managing the offensive

An April 18 article in the Fontana, Calif. *Daily Bulletin* announced that the state would not study whether (alleged) health problems were caused by toxic substances (i.e. pesticides). This was in response to citizens' calls to investigate (through a request by Assemblyman Bill Leonard) whether the deaths of three young girls last summer were caused by exposure to "pesticides and other chemicals," as the paper says.

Officially, the deaths were blamed on Prolonged QT syndrome (which is of genetic origins, not a man-made illness—ed.)

Those three unfortunate deaths have been the focal point of organizing efforts in Fontana by several activist citizen groups, including "Pesticide Watch" and "Center For Community Action and Environmental Justice." Earlier this year, these groups held several public workshops on how to organize locally and influence changes in a community.

Days after one such meeting, there were organized pickets at a Fontana City Council meeting, where demands for an investigation into those deaths were made. This demonstration was also shortly after the *Daily Bulletin*—the local paper that is supportive of these groups—ran a series of critical articles entitled "Toxic Legacy", where everything from pesticides to air pollution and old shut-down toxic dumps was blamed for causing a long list of illnesses in the region.

The newspaper recently reprinted the series in a 16-page section, which appeared on the newsstands in early April.

Earlier this year, calls to Responsible Industry for a Sound Environment (RISE) by Carl Clifton of Landscape Systems of Montclair and Scott Bangel from the City of Fontana Parks Department prompted the formation of our own small group of concerned business people and local organizations. Our group, which we named "Citizens For Accuracy In Environmental Sciences," met several times to formulate a plan on how to respond to the *Daily Bulletin* and questions from concerned citizens/customers.

Get out and be heard

One action we organized was a visit to the editorial staff of the *Daily Bulletin*, which was held last week (April 15).

Attending the meeting were Carl Clifton, Landscape Systems; Karen Watts, Western Farm Service; Dr. Bob Krieger, toxicologist, UC Riverside; Pam Bennet, San Bernadino County Health Department; and me. From the paper, two managing editors, a city editor and senior editor were in attendance. Unfortunately, the reporter who wrote the most slanted articles did not sit in on the discussion. My impression was that the editors were a bit taken aback by how critical our comments were on their coverage of pesticides. Karen Watts and several others (all living in the circulation area of the paper) expressed disappointment in the one-sided coverage the paper had been providing in the recent past compared to its long standing reputation of balanced coverage. They seemed to be surprised at the reaction we've been getting from citizens and their concerned questions about pesticides.

They said their response on the "Toxics" series was running about 50/50 pro and con. The city editors' comment was that they wanted to give people the information to make their own decisions. They also denied "taking on" the pesticide industry. The main issue was one of notification of citizens before spraying in schools, public areas, etc., so people could, "make their own decisions."

The paper's editors thanked us for coming in to express our side of the story, and offered to publish an op-ed piece from us. They also promised to be more sensitive to our concerns of over-dramatizing pesticide subjects, although they thought their coverage had been pretty balanced to date. We left them a list of local pesticide industry contacts plus the RISE materials, "Commonly Asked Questions About Pesticides," the IPM brochure and the piece on cancer. We also left behind a paper slide show prepared by Carl Clifton and myself with a series of comments/quotes from their articles and our

sign-up list of all interested persons including phone, fax and e-mail addresses. Distribute the list to all attendees to facilitate rapid communication.

"It seems like there's always a need for proactive action," says Carl Clifton, Landscape Systems, Montclair, Calif.

"[Reporters] are all looking for tomorrow's story. If it's not on environmentalism, it's about drought, or another issue," says Clifton.

"There is always the need to respond to the latest news piece. You would think there would be more people speaking out on behalf of the industry, but they've got companies to run too. Reporters want to write about wasting water rather than benefits the landscape and lawn bring. Quality of life issues come into play, and industry has to mention what happens when you do away with those things."

Parry Klassen is an independent freelance writer and communications consultant based in Clovis, Calif.

questions about the accuracy and/or source of facts. The editors were interested in getting from us a list of third-party sources (universities, institutes, organizations) who could be contacted for interviews. The group's plans now are to write the op-ed piece (with Carl Clifton of Landscape Systems as the author) and get it to the paper.

Our group will be surveyed about starting a speaker's program similar to the one sponsored by RISE, PLCAA and GCSAA. Some have said they are very busy with business so it's uncertain how many volunteers will step up. We'd like to think the last has been said about this issue, but I'm not holding my breath.

Parry Klassen

Powerful pH

The effects of pH are not limited to the acidity or alkalinity of the soil; pH affects the availability of soil elements by making them more or less available for plant uptake.

By NANCY STAIRS/ Technical Editor

Plants with roots in a soil pH environment for which they're not adapted tend to be more susceptible to pests and diseases. This isn't because pH has a direct effect on plant growth but, rather, through more indirect effects.

The elements in the soil which, by photosynthesis, are converted to nutrients necessary for plant growth are more available or less available in response to soil pH. A very acidic soil can have limited microbial activity and, for many elements, increased solubility or mobility. Adding lime to the soil can help correct an acidic soil condition. In an alkaline soil, beneficial microorganisms may be more active, but for many soil elements their solubility or mobility is reduced. If a soil has excessive alkalinity, it can often be adjusted by adding sulfur.

However, you should not amend soil without first testing the soil. Excess lime can raise the pH above plant tolerances and affect the availability and growth of beneficial microorganisms in the soil.

And, even a soil test will not tell you how much material is needed to amend a soil; different soil types require different amounts of amending materials to affect the soil pH. Test a topsoil or ask for an analy-

sis before you buy it to be certain that excess salts and elements are not present.

The significance of pH and nutrient availability is important for ornamental plants and for turfgrasses, although the symptoms of a deficiency or toxicity in turfgrasses may be different from the symptoms of ornamental plants.

Nitrogen is the most commonly deficient soil element. Other deficiencies are less common or occur under more specific circumstances. Nitrogen itself is soluble at any pH and is subject to leaching in acidic soils.

While **phosphorus** usually occurs in amounts adequate for most shrubs and trees, its availability is minimal in most soils due to low solubility. A pH range between 6.5 to 7.5 is best for phosphorus availability although it is also available above pH 8.5. Excess phosphorus can increase soil salinity and tie up micronutrients, especially copper and zinc.

Potassium is also present in sufficient amounts for most woody plants but deficiencies can occur; most often in the eastern half of the U.S. where it is humid with more soil leaching. Potassium deficiencies are less common in the more arid regions of the west except where irrigation has been practiced for many years. Large amounts of potassium reduce magnesium uptake, particularly in acid and sandy soils. Raising pH by adding lime can limit potassium availability.

Sulfur behaves like nitrogen, being soluble at any pH and subject to leaching. A deficiency in sulfur resembles a nitrogen deficiency, but occurs in the newer

leaves rather than the older leaves.

Calcium is usually present in large enough quantities to meet plant needs but levels will decline in acid soils where soils drain well and rainfall averages

Don't amend soil for pH extremes without first testing the soil.

over 30 inches a year. As soils become more alkaline calcium becomes more available although very high pH can make it unavailable. An excess of calcium results in low solubility of phosphorus, iron, manganese, boron and zinc which result in deficiencies of those elements.

Magnesium, the only metallic element contained in chlorophyll, is normally abundant in most soils, although subject to leaching in acidic soils and unavailable at high pH levels.

The type of amendment most appropriate for raising or lowering the pH depends on the soil type, so check with your extension agent or testing laboratory.

Iron is the most commonly deficient micronutrient in the landscape. Less soluble at high pH, an iron deficiency can result from over-liming an acid soil and is seen most frequently in alkaline soils and soil high in lime. Iron deficiency can also result from an excess of zinc or manganese in acidic soils, or

from high phosphorus levels in neutral or alkaline soils which can reduce iron availability. Iron deficiency in turfgrass causes chlorosis while sufficient iron increases color, enhances root growth and complements late fall nitrogen fertilization. Iron availability increases with lower pH when soils have too much iron to be depleted by leaching.

Manganese and iron have closely related roles and should not be applied in the absence or exclusion of the other.

Manganese is generally deficient under

the same conditions as iron, although deficiencies are more likely to occur in poorly drained soils high in organic matter or soils with high levels of copper, iron or zinc.

Treating a manganese deficient plant with iron may increase chlorosis. Symptoms of iron toxicity are similar to manganese deficiency and symptoms of manganese toxicity are similar to iron deficiency. Liming, to raise pH, can overcome toxicity in poorly

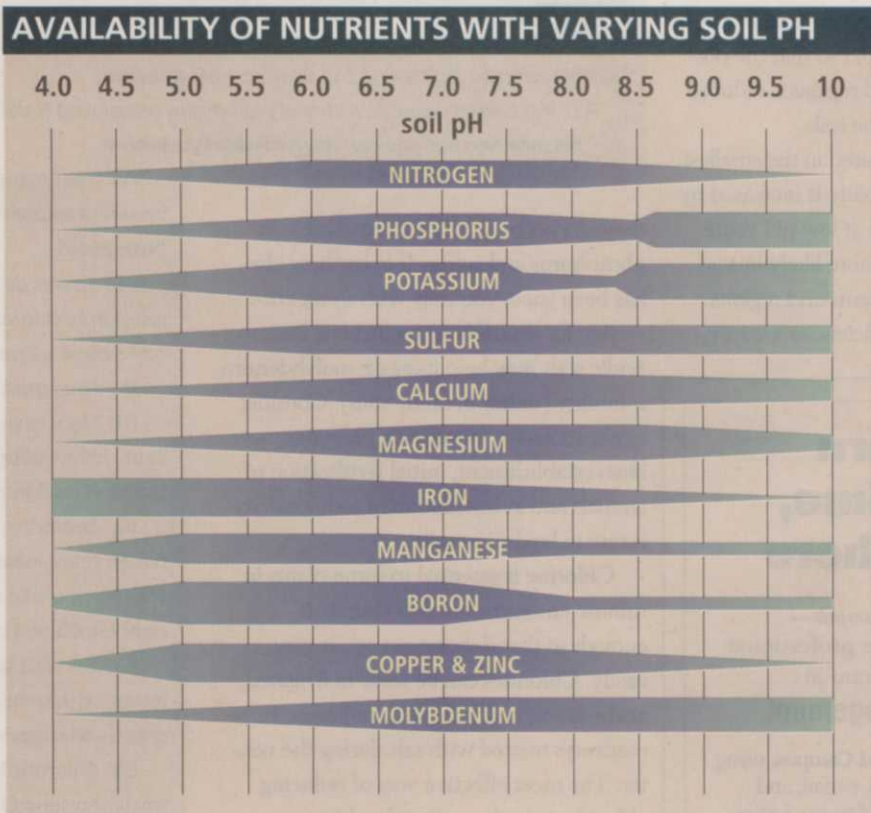
manganese, zinc can become less soluble at high pH and can be leached out at lower pH. Deficiencies in acid soils indicate low total zinc content and are most likely to occur in sandy soils with leaching, and in sites along the Gulf Coast. High concentrations of phosphorus or magnesium tend to reduce the availability of zinc. Low soil temperatures reduce zinc uptake by plants and can accentuate a zinc deficiency. Over-

liming can also cause zinc deficiencies, but applying phosphate fertilizer can reduce zinc toxicity.

Copper deficiency is not as common as boron or zinc but will occur in organic soils, particularly soils derived from sphagnum moss. Deficiencies can occur at both high and low pH as copper is less soluble at high pH and can be leached out at lower pH as well as where phosphorus, zinc or nitrogen levels are high. A copper deficiency can cause iron to accumulate in plants and a copper toxicity can

cause a chlorosis similar to iron deficiency. If toxicity is a result of copper fertilization or spraying, liming acid soils and spraying plants with iron chelate can help reduce toxicity. Toxicities tend to be rare but copper is toxic even at low levels so confirm with a soil test. Do not re-treat without a soil test and follow copper product application directions.

Boron deficiency can be hard to identify as it can appear like other deficiencies. It causes the death of terminal buds resulting in later shoot development and witches



aerated soils; however, excessively over-liming soils high in manganese will increase toxicity. Increased iron and zinc can also avert manganese toxicity as they reduce plant uptake of the element. Toxicity can occur in poorly drained soils even at high pH and in well-drained soils if pH is less than 5.6.

Zinc is adequate in most soils but deficiencies are often seen in cultivated trees and large shrubs. In turf, symptoms of zinc deficiency can include stunted growth with thin dessicated leaves. Like copper and

brooming. In turfgrasses, leaf chlorophyll, plant size and vigor can be affected. Boron deficiencies are usually related to parent materials low in boron, in acid, leached soils and organic soils. Deficiencies may also result from using irrigation water low in boron and high in calcium or by adding lime to soil low in boron which will inhibit boron uptake. The range between excess or deficiency of boron is very narrow, so it is easy to turn a deficiency into a toxicity. Toxicity can be reduced by leaching the soil. Boron is not very soluble at high pH so that the possibility for toxicity in arid regions is reduced due to the alkalinity of the soils.

Molybdenum is required in the smallest amount by plants. Solubility is increased by liming but is less soluble at low pH value so that deficiencies are more likely in acid soils and rare in arid or semi-arid regions. While molybdenum deficiencies are rare,

A Key to Nutrient Deficiencies of Ornamental Plants

This key is divided into 3 sections: (A) older leaves first affected; (B) youngest leaves first affected; and (C) terminal bud affected. Compare the symptoms listed with the symptoms observed.

A. Older leaves affected first

A1. General chlorosis progressing from light green to yellow; stunting of growth; excessive bud dormancy; necrosis of leaves, followed by abscission in advanced stages—

Nitrogen

A2. Marginal chlorosis or mottled leaf spots which occurs later; tips and margins may become necrotic, brittle and curl upward—**Magnesium**

A3. Interveinal chlorosis with early symptoms resembling N deficiency; leaf margins may become necrotic and curl upward—**Molybdenum**

A4. Leaf margins may become brown or mottled and curl downward—**Potassium**

A5. Leaves develop blue-green or red-purple coloration; lower leaves may turn yellow—**Phosphorus**

B. Youngest leaves affected first

B1. Light green color of young foliage, followed by yellowing; tissue between veins lighter colored—**Sulfur**

B2. Distinct yellow or white area between veins; initially veins are green, becoming chlorotic under severe deficiency, followed by abscission—**Iron**

B3. Necrotic spots in young chlorotic leaves, with smallest veins remaining green—**Manganese**

B4. Chlorotic leaves abnormally small; shortened internodes in severe cases, becoming rosetted—**Zinc**

B5. Young leaves permanently wilted, becoming chlorotic, then necrotic—**Copper**

C. Terminal bud dies

C1. Brittle tissue, young or expanded leaves becoming chlorotic or necrotic and cupped under or distorted; terminal and lateral buds and root tips die—**Boron**

C2. Growing points damaged or dead; tips and margins of young tissue distorted; leaves may become hard and stiff—**Calcium**

they can occur in soils extremely low in phosphorus and sulfur. If everything else has been tried, you may wish to try correcting for this deficiency. Adding lime to acidic soils may help increase molybdenum solubility (unless in sandy soils). Consider applications for foundation plantings, new lawn establishment, initial fertilization of annuals and at installation of sod. Toxicity is rare in landscape soils.

Chlorine is essential to some plants in minute amounts, but it is abundant enough so that deficiencies occur very rarely. Chlorides can be toxic in irrigated, arid regions, near seacoasts and adjacent to roadways treated with salt during the winter. The most effective way of reducing chloride and other salts is leaching.

Aluminum is not necessary for plant growth but is abundant and absorbed by plants. It is soluble under acid conditions and can become toxic to plant growth. Keep soil pH above 5.0 as high levels of aluminum can also reduce plant uptake of phosphorus, calcium, magnesium and iron. When soils are strongly acidic due to the presence of aluminum, turfgrass roots tend to become short and brown with a decreased tolerance to environmental stresses (such as drought and heat) and reduced recuperative potential. **LM**

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Circle 105

Events

JULY

6-10: Groundskeepers Management Academy, Millington, TN. Contact Floyd Perry at (407) 363-5965.

6-11: Perennial Plant Assn. Symposium, Westin Hotel Copley Place, Boston. Contact Dr. Steven Still, (614) 771-8431; (614) 876-5238.

16-18: Turfgrass Producers International Summer Convention & Field Days, Sheraton of Tyson's Corner, Virginia; Tom

Ford, (847) 705-9898; (847) 705-8347.

25-27: International Lawn, Garden & Power Equipment Expo, Kentucky Exposition Center, Louisville, KY. Call (800) 558-8767.

28: Midwest Regional Turf Field Day, West Lafayette, IN. Call Zac Reicher, (765) 494-8039.

28-30: Penn Allied Nursery Trade Show, Fort Washington Expo Center, Fort Washington, PA; Sandy Seltzer, (717) 238-1673; (717) 238-1675.

AUGUST

4: Golf Course Seminar - New Technology, SUNY Delhi, Delhi, NY. Call NYSTA: (800) 873-8873 or (518) 783-1229; or Dominic Morales, (607) 746-4413.

12: Landscape Maintenance Association Qualification Seminar, Collier Country Cooperative Extension, Naples, FL. Pre-register only (at least 5 days before seminar); (407) 672-0633.

14-16: ALCA Sales Symposium, Westin Galleria Hotel, Dallas, TX. Call ALCA: (800) 395-2522 or (703) 736-9666; or website www.alca.org

18: Cornell Golf Field Day, Cornell University, Ithaca, NY; Dr. Frank Rossi, (607) 255-1629

19: Michigan Turfgrass Field Day, Hancock Turfgrass Research Center, MSU, East Lansing, MI. Contact Kay Patrick, (517) 321-1660.

20: Turf & Landscape Field Day, University of California Bay Area Research & Extension Center, Santa Clara, CA. Contact Dr. Ali Harivandi (510) 639-1271.

24: Central New York GSCA Poa Annual Golf Tournament, Oswego Country Club, Oswego, NY. Call NYSTA at (800) 873-8873 or (518) 783-1229

31: Metropolitan GSCA Poa Annual Golf Tournament, Rock Spring Club, West Orange, NY. Call NYSTA at (800) 873-8873
LM

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Curtis Dyna-Fog, Ltd., a maker of sprayers and foggers has a new web site, which describes the history, activity, product line and possible uses of the equipment. Visitors to the site will see complete details of the wide range of equipment offered with guides to different models. Address is: www.dynafog.com

The Davey Tree Expert Company has acquired the assets of Raintree Landscape Services, Inc., a full-service landscape maintenance organization in Tampa, FL. Raintree serves commercial developers, property managers and homeowners association with irrigation, nutrition and pest control, landscaping, horticultural consulting and landscape management services.

Visit the new **Encore Manufacturing** web site at www.encoreequipment.com to compare the daily equip-

ment cost of mowers, for updates on mowing and maintenance tips for commercial cutters. Products are described, with spec charts.

Dow AgroSciences has a new web site to answer commonly asked questions about their professional products. Regional application windows and application tips and links to various industry sites can be found at www.dowagro.com under the Turf and Ornamental menu option.

Flowtronex Europe Ltd. is the newest member of the family of pumping systems companies that includes US-based Flowtronex PSI, Flowtronex International and Best Equipment, Inc. Flowtronex Europe was formed by the recent acquisition of Action Pumping Services Ltd. of Waterlooville, UK by Rosewood Equipment, parent company of Flowtronex PSI

and related entities. Action supplies pre-packaged pumping systems, pumps and controls to municipalities, golf and landscape industries throughout Europe.

Griffin LLC has formed a new business team for its specialty products group. Led by Owen Towne, global business director, (and ex-director of turf for Novartis), the team is to expand and develop the Griffin line including Junction fungicide; Roll-Out root-growth regulator; and Chlorofos insecticide. Jimmy Whately is business director; Joe Mares is product development manager for insect control. Trey Warnock, David King, Mark Crawford and Patti Niewoehner are on board.

Zeneca Professional Products has named Glen D. Johnson as Contract Sales Market Lead. Johnson has worked with Zeneca for 15 years in var-

ious capacities and will now be responsible for the sale of all technical active ingredients to customers in the non-ag and agricultural markets in North America.

Continuing in their recent expansion activities, **Century Rain Aid**, the nation's leading distributor of landscape irrigation, outdoor lighting and water feature products has opened three new midwest branches. The stores are located in Wichita, Kansas; Plainfield, Illinois; and Plymouth, Minnesota. Century has opened 30 branches in the last 12 months through corporate acquisitions and new sites.

The **Weed Golf Course Design** firm based in FL now has a website which provides a thumbnail sketch of the firm in a fast-loading format. Courses designed and redesigned or remodeled are listed and photos are presented as well as background information on the staff and recent news about the firm. Check out the site at bobbyweed.com

Riverdale Chemical company named Curtis Clark as marketing manager. Clark is responsible for all marketing and advertising. Most recently he was director of marketing and sales for Troy Biosciences. Previously, he worked as sales manager and marketing manager for American Cyanamid. **LM**

Info center

VIDEOS AND LITERATURE FOR THE GREEN INDUSTRY

CD-ROM FOR PUMPING SYSTEMS TRAINING... Flowtronex PSI, Columbus, OH, has a program that is believed to be the industry's first pumping system training available on CD-ROM. The CD features curriculum for architects, contractors, consultants, engineers, dealers and other professionals who make important business decisions related to golf course operations. The CD-ROM training currently is available only to students who attend instructor-led FINALNET and Big Picture courses from Flowtronex. Contact Greg Lush at greglush@flowtronex.com

'TREE BYTES' CD-ROM FACT SHEETS... now available from UMass Extension Landscape, Nursery and Urban Forestry Program. The 150 fact sheets have information on insects, mites and disease pests found in the Northeast and include 750 color photographs. The same CD works on both Apple and Windows 95 platforms (use in Windows 3.1 results in some loss of quality). Text cannot be printed but a hard copy booklet of the fact sheets will be available at a later date. Contact Bob Childs at (413) 545-3208.

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C2150HQ



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▲ 27" Cut					•
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▲ 7 Blade Reel	•	•	•	•	•
▲ 3.0 Horsepower B&S	•				
▲ 3.5 HP B&S or 4.0 HP Honda		•	•		
▲ 5.0 HP B&S or 5.5 HP Honda			•	•	•
▲ 1 Piece Bed Knife Assembly	•				
▲ 2 Piece Bed Knife Assembly		•	•	•	•
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▲ Bronze Bearings in Differential	•	•	•	•	•
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[LANDSCAPE/GROUNDS]

PAGE 2 L ▶

Ponds for added profit!

PAGE 4 L ▶

Pros tips on reducing travel time

PAGE 14 L ▶

Win against vandalism

PAGE 16 L ▶

Software a time-saving tool

Dog days, the time to relax, recharge, and refocus

Take a break and catch your breath. It's mid-summer. Dog days. Take some time to relax, recharge and reflect on what you've accomplished so far this season. And what you still want to get done in 1998.

You'll think much clearer, and make better decisions if you get away from the shop for a week, a few days at least.

Reintroduce yourself to family and friends. Go to the local ball park for a game or two. Take the family on that fishing trip you've always dreamed about. Spend some time at a quiet lake. How about that bicycle tour that you were always too busy to try?

If you can't take more than a day or two away from your business (or even if you can), attend one of the many summer turf and ornamental field days. They only cost \$20-\$30 and you usually get lunch too. These field days are a great deal considering all the friends you'll see and the great things you'll hear about.

Take some of your good employees with you. They'll greatly appreciate it.

Here's a list of some of the remaining turfgrass field days:

July 28, Midwest Regional, West Lafayette, IN: 765/494-8039.

Aug. 12-13, Penn State, University Park, PA: 814/863-3475.

Aug. 18, PLCAA Texas Chapter, Lawn & Ornamental Conference, Dallas: 800/458-3466.

Aug. 19, Michigan State, East Lansing: 517/321-1660.

Aug. 20, Turf and Landscape Field Day, U.C. Bay Area Research and Extension Center, 90 N. Winchester Blvd., Santa Clara, CA. No advance registration required.

Aug. 26, Ohio State Turf and Ornamental

Field Day, Columbus: 888/683-3445.

Sept. 15-16, Turfgrass Research Conference and Field Day/Landscape Management Research Conference and Field Day, U.C. Riverside, CA: 909/787-4430.

Sept. 22-24, VA Tech Turf and Landscape Field Days, Blacksburg, VA: 840/231-5897. **LM**

[PEOPLE & PROJECTS]

Valley Crest still hot in Orlando

The Orlando office of Valley Crest landed two contracts totaling \$5.6 million for projects at Universal Studios Florida's "Islands of Adventure" expansion. It secured a \$3.1 million contract to work on theme park's Lost Continent Island and a \$2.5 million contract to work on Toon Lagoon. In all, Valley Crest is providing over \$10 million worth of landscape, site construction, and concrete theming services to Universal Studios Florida.

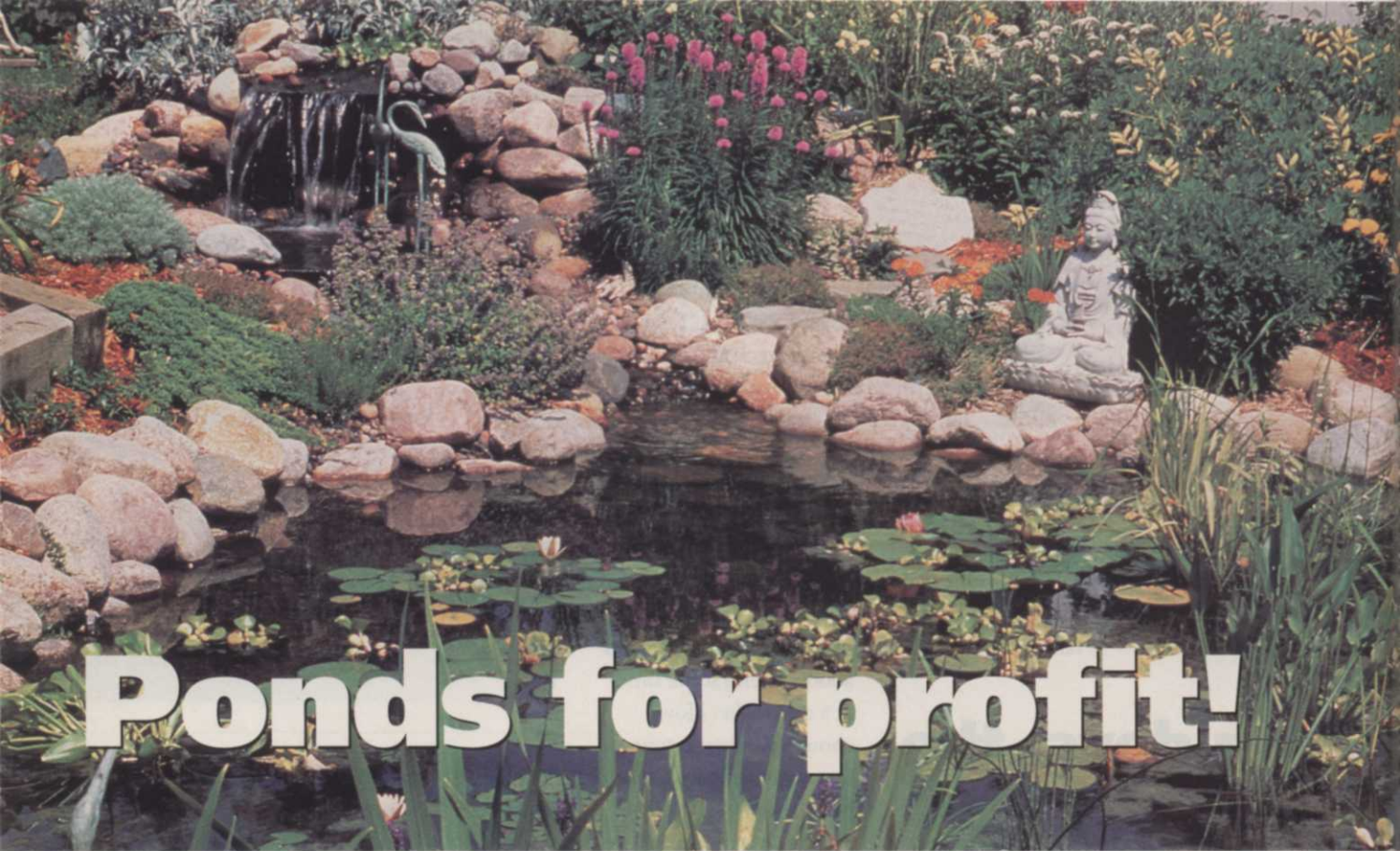
The Groundskeeper adds to staff

The Groundskeeper, Tucson, AZ, named Roger Wyer as its Continuous Improvement Director. Wyer brings a unique background to the position. The ASU grad has, besides owning his own residential design-build company, served as a tribal planner for the Pascua Yaqui tribe, and as director of programs at Green Valley Recreation. The Groundskeeper is an employee-owned commercial landscape management firm with offices in Phoenix, Tucson, Las Vegas and Palm Springs.



Ron Hall

RON HALL
Senior Editor



Ponds for profit!

Read these pond-building basics to put your new service in the right (and profitable!) direction.

By GREG WITTSTOCK

So, you want to get into building ponds. You research books and magazines on pond construction and maintenance, and talk to so many people that you have enough information to write a graduate thesis paper on water gardens. There's only one problem: everyone you've talked to and everything you've read conflicts with one another. Everything!

When you asked how deep a pond needed to be to have fish survive a zone 5 winter in Chicago, you heard: 3 feet, from the garden center; 4 feet, from the magazine article; and 18 inches from a friend who swears his fish live year-round.

Lots of misinformation

Why did what started off to be a profitable add-on service turn out to be such a fact-finding nightmare? The problem is simple. Although often well intended, the in-

formation produced regarding pond construction is from people who don't build ponds, or have built too few to thoroughly understand them.

As a professional pond builder, who builds ponds daily, I see the misinformation that permeates the water-gardening industry. The one who is affected the most is the pond owner left with an inferior product that requires excessive mainte-

nance. The other loser is the contractor who installs them.

Contractors are losing sales due to the confused customers and are spending excessive amounts of time educating themselves and their customers about water gardening. Yet, the popularity of ponds continues to rise despite all these problems. It's as if all the problems are worth the rewards to new pond owners.



Approach constructing a pond with the idea of creating a balanced ecosystem with proper filtration, plants, and fish. It will dramatically reduce maintenance, and make customers smile.

PHOTOS BY AQUASCAPE DESIGNS

This reality makes me ponder how popular water gardens would be if it were easy for contractors to get accurate information. I'd like to take a step in that direction by letting you know how my company approaches water-garden construction. Even though my ideas may ruffle some feathers, here is what I know works, and what doesn't and why, when building ponds.

If you've done much reading on water-feature construction you've probably seen the word ecosystem. In plain English, to establish an ecosystem in a pond you need to work with nature and not against it. That means you shouldn't use chemicals but should instead create a balance in each pond you build. To do this you need a mechanical skimmer filter, biological filter, pump, plumbing, rocks, gravel, fish and aquatic plants. Eliminating any one of these can hamper your efforts to establish a proper pond balance.

Mechanical skimmer filter

Water is a magnet for wind-blown debris. (Swimming pool installers figured this out 100 years ago and started making skimmers.) To remove debris, you need a skimmer filter that constantly runs to keep your surface free of debris. Additionally, a skimmer filter will break surface tension and take highly oxygenated water (the surface area) and discharge it into the biological filter.

Your biological filter is a container where high numbers of bacteria live and work to clean the water. Bacteria break down nutrients that lead to algae and green water. In essence, bacteria eat the nutrients that would lead to green water.

Pump and plumbing

Your pump needs to run 24 hours a day, 7 days a week. If you turn it off, bacteria will start to die and oxygen levels needed to sustain your fish will dwindle. Use a high-efficiency, energy-saving pump and place it in the mechanical skimmer



Providing customers with beautiful water gardens is easier than you think if you put together a step-by-step installation plan.

vault to prevent it from clogging. Use a pump that can turn the water over at least once an hour. Do not restrict your pump flow by using narrow, rigid pipe. A pump rated between 1000-3000 gallons per hour (GPH) should use 1-2 flexible PVC pipe.

Rock and gravel

The most overlooked construction materials are rocks and gravel. Spreading 3 inches of gravel over the entire liner is about 50 percent of the battle against green water. You should place 1 to 2 inches of gravel on the horizontal areas of your pond and 6-12 inch granite cobblestones on the vertical areas. (We suggest using 45 mm fish grade, rubber EPDM liners because they are easy to install and will last 50-plus years when covered with rocks and gravel.) When you

rock-in the entire pond you create a giant biological filter. Bacteria thrive on the rocks, rocks hold the liner down, and block out damaging UV rays. Additionally, a gravel bottomed pond is beautiful.

Fish and plants

Don't be afraid of fish. They're the perfect pet and an important part of establishing an ecosystem. Fish will feed on insects and algae in your pond. (Most people however, can't help feeding them and giving them names as well.) In Chicago, fish and plants will naturally overwinter in two feet of water.

Aquatic plants open up a whole new world for gardeners. Most water plants are like any other perennial plants. They'll come back every year with the additional bonus that unlike their terrestrial counterparts, they're self watering. Tropical plants can also be added and treated like any other annual.

When you approach constructing a pond with the idea of creating an ecosystem, your chances of success increase dramatically. Don't cut corners or leave out any of the previously mentioned items unless you're willing to sacrifice pond quality and your time.

Clean the entire pond and filters every spring, empty the skimmer debris nets every few weeks, and periodically sprinkle in natural bacteria, and you'll be set.

Pond construction isn't and shouldn't be made out to be rocket science. I hope I have cleared up some confusion you may have had with building a pond.

Landscaping with water captures all the senses and soothes the soul like nothing else. □

Look for "Estimating and selling water gardens" in the August issue of LM.

—The author is president of Aquascape Designs, based in West Chicago, IL, and produces materials and seminars geared towards helping contractors succeed at building and selling water features.



Not every landscaper is plagued by travel time. But for those companies whose workers must travel long distances to job sites, there are increased expenses, lost profits, fewer completed jobs and additional frustrations and stress. But there are solutions, which we here provide in the nick of time.

Jim Grow, vice president of Pennink Arrimour in Huntington Valley, Pa., is a 30-year green industry veteran, and has been with that company for 12 years. Grow tracks all maintenance operations, no

A few of those unusual things his people do at sites include cleaning pallets, off-loading docks, pressure-washing dumpsters and cleaning goose droppings from jogging paths. To perform these duties with as little disruption as possible to customers, workers must get a very early start.

The satellite office concept has helped Pennink and other companies avoid traffic jams.

"Once you get beyond 30 to 35 miles, you start to be inefficient, and not cost effective with travel," explains Grow. "So we try to limit the distance our crews have to travel to maybe 40 minutes."

A satellite office may be a full-blown mini-office and garage (with adequate parking of course), or a locked equipment trailer.

Mechanic house calls

Due to the increasingly sophisticated equipment being needed and used for landscape maintenance, crews aren't as readily equipped to repair equipment on their own. Grow therefore sends a mechanic to the dedicated sites for weekly service or maintenance.

Crews may also bring equipment to the closest office

site on a day with less work, and the mechanic then does normal preventive maintenance and repair.

Grow says the equipment is usually seen once each week. Six full-time mechanics do the work, with split shifts, between 6 am and 10 pm.

"The key is to keep your crews as well stocked and as well maintained as you can," says Grow. "They don't have to do a lot of running around. Keep them prepared."

Routing routines

Another important time-saver is in the actual job routing.

"The crews have to know where they're going," says Grow. "They need to be able to walk into the office in the morning, see if there are any changes to their schedule and go!"

To operate that efficiently, Grow believes, crews have to be well-trained so they are not constantly stopping for all kinds of reasons.

"We basically insist that they get trucks loaded the night before.

Getting there

Travel time is a cost burden you have to solve by creative routing, satellite offices and early starts. It

should also be

included in

customer costs.

And guys, ask

for directions!

By JOHN B. CALSIN, JR.

small accomplishment in a 235-man company.

Grow starts with the obvious: being an "inter-state" company, the crews come in at 6 am, "to beat the traffic and alternate travel times around rush hour," says Grow. "If we're traveling a distance, we hope they're at the job site before rush hour."

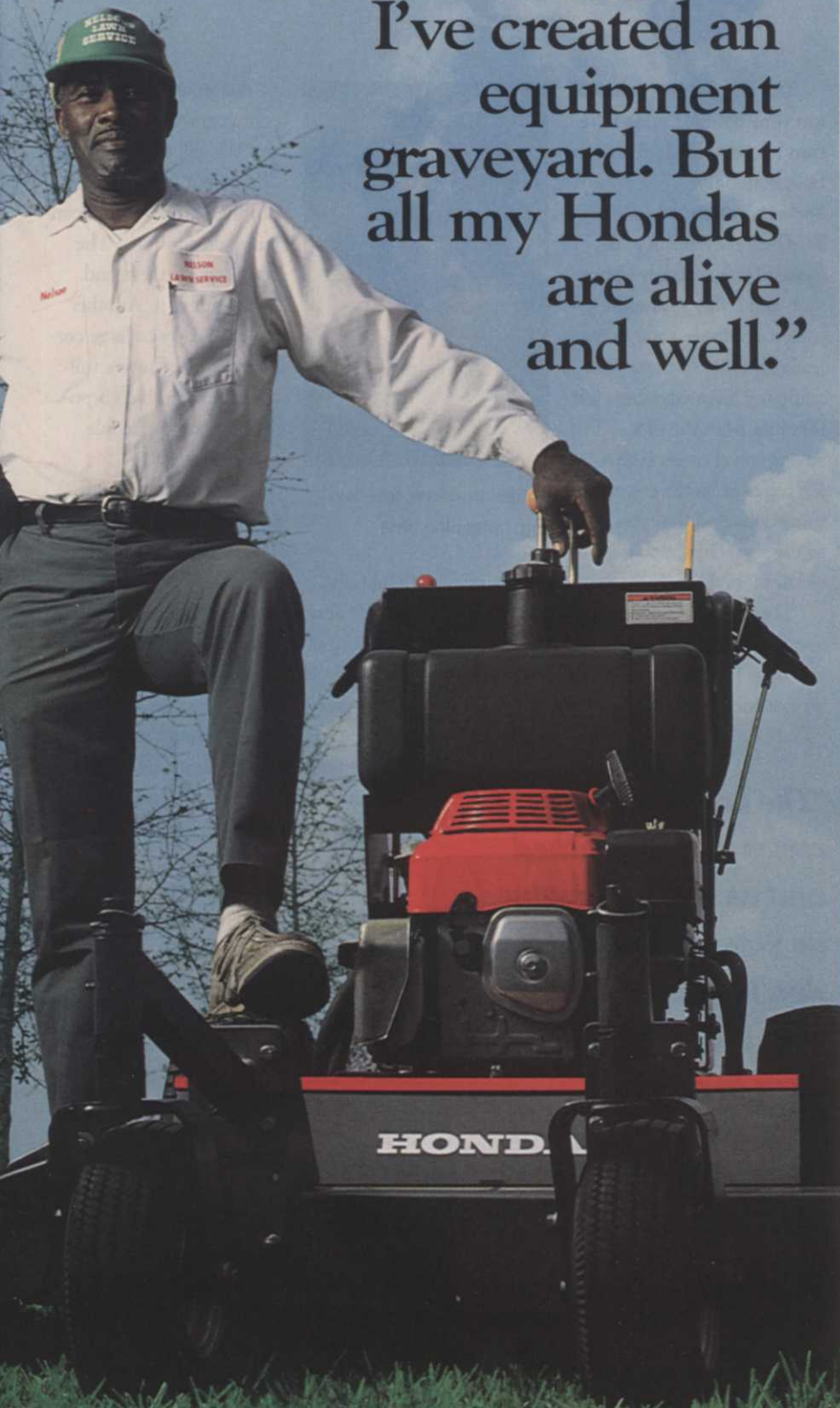
These crews handle the commercial side of the business, which is about 65 percent of sales. Residential crews start later in the morning.

Some crews will report directly to the site. Trucks and trailers are kept at certain client's properties, those that have facilities and allow it.

One of those clients is a large pharmaceutical company in northern New Jersey, with multiple branch locations. Specific crews direct-report and move between the drug company sites.

Saving travel time might become more important in the future for non-traditional landscape reasons. To land and keep certain contracts, Grow says, "there are a lot of unusual things that you get in to. What ever the client wants you to do."

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At Pennink, account managers are responsible for crews, and they run those crews as a small business."

Geography lesson

Knowledge of the neighborhoods and cities is important, because let's face it—not everyone can fight their way out of a paper bag, and should not be expected to look at a map to set up a route.

As basic as this sounds, some wasted travel time could be solved by putting a different employee on the routing and scheduling.

Fullbach Services, Inc., Louisville, KY., is also working to eliminate the travel time blues.

Jon D. "Dave" Fuller, is the company's executive vp, and also a former PLCAA board member.

Fullbach is located in an enterprise zone, which, says Fuller, "puts us out of the city, where most of the flurry of economic development is. So, we're pretty far removed from the majority of our customer base."

The location might provide some tax advantages, but, says Fuller, it creates certain travel-related "situations".

A solution for Fullbach is an industry-specific computer program, for routing and scheduling. The program also does job costing, billing and financial reporting.

"Not that this is the do-all, end-all, but Clip allows a landscaper to do map codes, and then sequence jobs. It's a pretty slick program."

Fullbach has a highway department account that involves lots of shrubbery maintenance. Due to the distance involved, Fuller was motivated to set up drop sites for equipment, with highway department permission.

"I have found different spots in the city that we begged for, negotiated for or rented. We find a remote location to set up our center of operations and have all the material delivered to that remote site."

The drop site saves lots of lost time by not having to return home to load up on bulk material.

Security glitch

Theft prevention at remote sites is certainly important, and Fuller says some sites are not safe enough to leave equipment there. The company has a landscape job 90 miles from the office. Saving travel time on that job requires "getting everything delivered that you can to the site. Then, you go the old fashioned way, rent a room!

"Dead time is a real factor. You can be as efficient as you want on the job, but if you have [numerous] hours of dead time, it's not such a good deal. That's where

"The key is to keep your crews as well stocked and as well maintained as you can, so that they don't have to do a lot of running around. Keep them prepared."

you've got to track this travel time."

Tim Aalbu, president of Aalbu Landscape Maintenance, Inc., Portland, OR, blames the traffic for most delays, especially with rush hour and road work.

"Heavy traffic in the area is one of the reasons travel time has grown. The population growth in the Puget Sound area has been tremendous, and it's dramatically increased our travel time. Then, there's the fact that we have spread ourselves out geographically as far as our jobs go."



Fuller: drop sites save loading, unloading time.

Aalbu uses drop-off containers to store tools.

"We call them 'satellite offices' but it could be as simple as a large cargo container on a job site. The crew reports there and works out of it. Another one is set up at a large corporation. We have a full-time crew on that corporate site, so the people report there."

The container is 8 ft. tall, 30 ft. long, 6 feet wide. The client supplied it,

thankfully.

"We also have one additional crew that works out of that site. They report in and pick up their equipment and go out from there," says Aalbu.

What's it contain? "We pretty much just keep our normal maintenance equipment in there. If they need something extra, like an aerator, we supply it out of the main office," says Aalbu.

"A good on-site supply for one crew would be a 36-inch intermediate walk-behind mower, a 21-inch mower, edgers, line trimmers, blowers, and then some basics—rakes, shovels, maybe a few chemicals. That takes care of their basic needs. They radio to us if they are in need of any thing other than normal maintenance type equipment.

Money savings

"I guess we're saving probably two man-hours each day, plus fuel and maintenance on vehicles and wear and tear," estimates Aalbu.

"We looked into self-storage units, but they will not allow you to have any source of fuel in them whatsoever; not even a cup."

But there's one more problem they haven't been able to solve.

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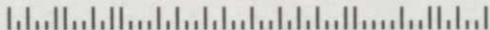
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ferry to get to some of them. But you can't transport equipment on a ferry with fuel inside it, so you have to completely drain the fuel tanks and refill them back on shore."

"It's unproductive time," says Larry Schultz of Nair's Lawn Care Service in Medina, Ohio, about drive time. "

"We've had the routes rescheduled or rerouted by one of the managers. That way it's well thought out. We beat the rush hour. Maybe get them out an hour before rush hour."

Schultz says there are six different routes that are used to serve the company's more than 300 customers.

And it's not just about distance. Delays such as too many left turns and red lights, are sliced out of the route as often as possible.

"We'll take a back road with one stop sign as opposed to a main road with five lights. That is so unproductive."

Road work maps are available from some state DOTs. Ohio provides one, and Nair's uses it every day.



Fullbach crews benefit from industry-specific scheduling/routing software.

Fuel savings is another benefit of clever routing, "and you also make sure vehicles leave with full tanks so they're not looking for gas stations that we don't have credit cards for," reminds Schultz.

"Wasted time hurts. You can waste 20 minutes at a gas station, with buying snacks, using restrooms, and waiting in line

as another company's truck and trailer are fueled.

Dan Jacobson, who co-owns Landstyles, Inc., Willoughby, Ohio, with partner Ralph Tirabassi, keeps maintenance crews on fixed schedules.

"We generally keep them within the same area, so they're not bopping around from one area to another," says Jacobson.

Equipment loaners for breakdowns in the field are made possible by helpful distributors.

"We have things set up with some of our vendors for maintenance equipment. They can pick up a loaner piece of equipment and keep on moving. With smaller equipment, we carry extra weed-eaters and leaf blowers, so they can continue working.

"We try to establish good relationships with equipment vendors, so that when we need something, they will bend over backwards to help us," explains Jacobson.

Landstyles also has a landscape equipment mechanic on call to service larger equipment in the field. □

John B. Calsin, Jr. writes for LM out of West Chester, Pa. Terry McIver contributed to this story.

Travel survival skills

❶ What is the condition of the equipment, including vehicles and trailers. Can they take hard travel abuse? If needed, can your crew change a tire on a trailer, or do you need a mechanic?

❷ Keep crews well stocked so they don't have to make trips back to the garage or "run around" to buy something.

❸ Have daily schedules with map routing and/or directions for the crew to take with them.

❹ Tell crews about all alternate routes, for those times when expressways are clogged.

❺ Real basic: some wasted travel could be eliminated by putting a different employee on the routing and scheduling team.

❻ Be flexible in case a customer needs to change his service day on short notice.

❼ Consider travel time as an expense, and charge the customer for it. Cut out as much travel "fat" as possible.

❽ Study your geographical area and mark all your accounts. Are there areas with numerous customers bunched together, and are those areas an extended distance from the shop, say 25+ miles? Maybe it's time to consider a satellite office, or remote storage site for vehicles and equipment.

❾ The storage company you pick has to allow outside storage of trucks and trailers.

❿ Buy a computer routing program.

-JC

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Win against vandalism

Follow these measures to protect your business from vandals, and to make sure you have proper insurance plans should damage occur.

By BOB DECKER

Imagine the shock of arriving bright and early to the landscape company you've built from ground zero and finding each of the windshields of your five trucks shattered and the tires slashed.

Unfortunately, situations like the one described above happen more often than you might think. The good news is that there are measures that you can put into place to minimize your chances of becoming a victim.

Eliminating opportunity

The first step in deterring vandalism is to eliminate opportunity. Inspect your property and assess its overall security. Consider adding extra security measures or improving existing ones. The more secure the property, the less appealing it will be to vandals. Consider:



Decker: advertise your anti-crime group.

- ▶ Installing an alarm system. If you already have a proprietary alarm system in place, test it at least once a week to ensure proper working condition. Central station alarms are

maintained by an alarm company and checked at regular intervals;

- ▶ Using deadbolt locks on all outside entrances and inside security doors. If you prefer padlocks, they should be made of



This damage, and that on page 15, was not caused by an accident. It was deliberate, an act of vandalism. It occurred in a nursery/landscape company in the East several years ago.

steel and kept locked at all times. Remove serial numbers from your locks to prevent unauthorized keys from being made;

- ▶ Purchasing exterior or security doors lined with metal and secured with metal security crossbars;

- ▶ Welding exposed door hinge pins to prevent removal;

- ▶ Keeping lights on both inside and outside of your business, especially around doors, windows, skylights, points of entry;

- ▶ Installing covers over exterior lights and power sources to deter tampering;

- ▶ Building a fence;

- ▶ Designing your landscape with prickly shrubs or closely planted hedges;

- ▶ Eliminating places on your property where someone might hide.

In addition to examining the property yourself, you may want a second opinion from a qualified source. Some insurance companies, like Florists' Mutual, provide

walk-through inspections as part of their loss control programs. Local police or sheriff's departments are also good sources for advice on security measures.

Protecting assets

In addition to making your property as secure as possible, you should be sure you have appropriate insurance protection against vandalism, including coverage for:

- ▶ Loss or damage to real or business personal property;

- ▶ Debris removal, which covers expenses involved with removal of debris resulting from the destruction of insured business property;

- ▶ Repair and replacement of damaged signs;

- ▶ Repair and/or replacement of motor vehicles;

- ▶ Repair and/or replacement of mobile equipment, including tractors, farm machinery and other vehicles designed for use

primarily off public roads;

▶ Repair and/or replacement of outdoor property. This provides coverage for outdoor fixtures, fences, antennas, satellite dishes and towers, lawns, plants, shrubs and trees not held for sale.

Also, mark all equipment with an identification number (for example, a tax identification or license number) and keep a record of all these numbers off premises. You should also keep detailed, up-to-date records of all existing and new property and store backup copies off premises. Always remember to report any new property to your insurance company to ensure adequate protection. If you are victimized, your insurance will be able to assess losses more easily, and you'll be able to provide useful information for law enforcement agencies.



Joining forces

An anti-crime council can establish links among companies and improve communication between businesses and the police, making them highly effective in vandalism prevention and prosecution. "Business Watch", a National Crime Prevention Council program, is modeled after the "Neighborhood Watch" concept. Check with neighboring businesses or your local police department.

Get to know neighboring business owners. A telephone tree is an effective means of sharing information with other merchants. Should a problem develop, each merchant is responsible for calling one or two others on the tree.

Aggressively advertise your anti-crime group. Post signs noting that your block of businesses is organized to prevent crime by watching out for and reporting all suspicious activities to law enforcement.

After vandalism occurs

In the unfortunate event your property is vandalized, immediately:

Beware former unhappy employees

Vandalism committed by former, disgruntled employees can be particularly destructive because, in many cases, they have had access to security information and know where the company's most valuable assets are located. To prevent problems down the road:

- ▶ Establish and enforce clear policies about employee vandalism, crime reporting, opening and closing the business and other security procedures;
- ▶ Limit access to keys, computerized records and alarm codes;
- ▶ Engrave "Do Not Duplicate" on store keys;

▶ Change locks and access codes when an employee is terminated;

▶ Provide information about your security systems to employees on a "need-to-know" basis;

▶ Instruct your employees to report any suspicious activity or person immediately and write down the information for future reference;

▶ Reward employees for uncovering security problems;

▶ Perform background checks as part of the hiring process.

—BD



- ▶ Call the police;
- ▶ Document the crime with photographs;
- ▶ Contact your insurance agent;
- ▶ Clean up or replace signs, repair equipment and paint over graffiti.

Vandalism is a crime that can paralyze your business. By eliminating opportunities for vandalism, protecting your assets and properly insuring your business, you

can significantly reduce the likelihood that your landscape company will be a target for vandalism. □

—The author is Assistant Vice President of Loss Control Florists' Mutual Insurance Company

A time-saving tool

CLIP for Windows, a computerized lawn industry program, helps lawn care business owners eliminate business inefficiencies.

By RON HALL/ Managing Editor

You hear it all the time, "Time is money." Don't believe it; time is more valuable than money.

Time is not replaceable. It's the most valuable resource any business owner manages. This is particularly true in the green industry. There are so few productive hours in each season. Doing things right the first time and keeping the hours spent on mundane, repetitive tasks to a minimum contribute to a robust bottom line. Tasks that are repetitive are made for computers. Beg for computers. Most green industry businesses are using one or more off-the-shelf software programs such as QuickBooks, MYOB, Peachtree, Microsoft Word, Excel, etc. These programs promote a professional appearance and generate necessary business reports. However, chances are that even if you are using one of these software packages, or something similar, you're still suffering from paperwork overload.

Off-the-shelf software just does not cut it when it comes to certain areas of your green industry business. Routing and scheduling remain the stuff nightmares are made of;

billing is a headache just waiting to happen; job costing can cost you sleep.

Why spend late nights and early mornings under the paperwork siege when the right software program can handle your repetitive tasks and categorize the massive amounts of data they generate into a readable format that enables you to make informed business decisions fast?

One of the popular programs designed specifically for the needs of the green industry is called CLIP. It has been on the market for over a decade and has a large number of lawn care business users. Where off-the-shelf software falls short, CLIP picks up the slack by tying your customer base into your job scheduling, routing, billing and job costing.

"We have approximately 700 jobs. CLIP saves us a lot of time as far as keeping track of them," says Peggy Moyers, Moyers Lawn Care, Rockville, MD.

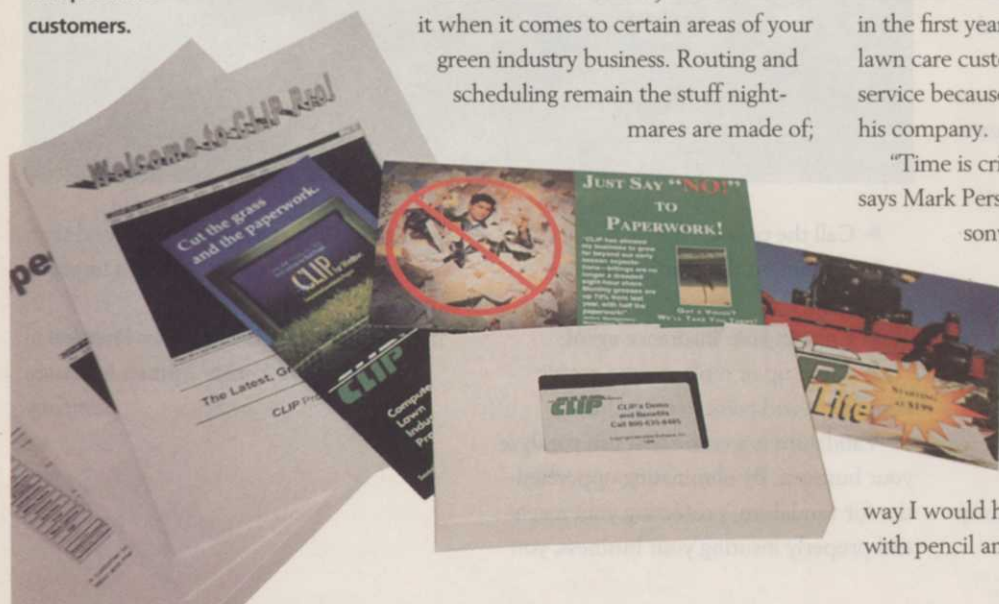
Peggy says every afternoon the crews bring back their work orders and she enters that data into her computer. She says it usually takes only about 40 minutes. Then she prepares and prints out the next day's route sheets.

Marty Allen, Environmental Expressions, Gaithersburg, MD, says, "before I got CLIP, I spent three days a week in the office doing paperwork." He says the software allows him to do the same amount of work in only 10-15 minutes each day. He estimates that using the software saved him \$20,000 in the first year alone. It's also allowed him to service lawn care customers he would not have been able to service because of the flexibility the software gave his company.

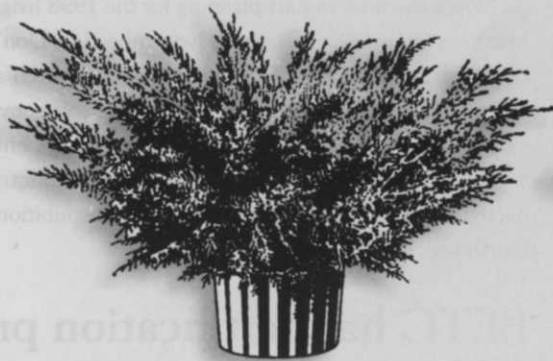
"Time is critically important in maintenance," says Mark Perschel, Perschel Brothers Services, Jacksonville Beach, FL. "I know exactly how much money I am making per man, per hour on every job."

His crews enter information into a Remote Data Collector as they enter and leave each job site. "We have 300 properties all with differing schedules. There is no way I would have time to keep track of them all with pencil and paper," says Perschel.

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CLIP operates on an IBM PC compatible system using the Intel 80386, 80486, Pentium or later chip. These systems must have at least 200 megabytes of hard disk, a 3 1/2" high density desk drive, and at least 8 megabytes of RAM. You can use any Windows compatible printer. A Super VGA color monitor is recommended.

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LCA home page helps consumers find a landscaper

The Landscape Contractors Association of MD-DC-VA now has a web site for landscape professionals and consumer access: www.lcamddcva.org.

Consumers searching for a landscape professional can now find companies that meet their specific needs by using a "find a landscape professional" link. Searchable by types of work and geography, the consumer will immediately be able to locate firms that can meet their landscape needs.

The site also contains information about the association's upcoming events and programs. Scott Brinitzer, LCA president, says both the public and LCA members will be able to access information about the association and its members outside of regular business hours.

San Diego awaits irrigation show

Now's the time to start planning for the 1998 Irrigation Association International Irrigation Show in San Diego on November 1-3. Don't put it off any longer. Call the IA today at (703) 573-3551 or register over the web at www.irrigation.org. Lock in your reservations and start planning your perfect convention.

Held in the expansive San Diego Convention Center on the waterfront, the show will have irrigation experts from more than 60 countries. More than 6,000 are expected to register for the annual event. The exhibition floor sold out in May for the fourth year in a row!

EETC has certification program

Schools across the United States are excited about the prospect of gaining certification from the Equipment and Engine Training Council (EETC). At the organization's meeting in Milwaukee, WI, in May, the 120-plus participants received copies of the new "Outdoor Power Equipment Technology Program Certification" publication.

For a school to become certified it must meet the industry's standards for providing professional training facilities and tools; ensuring instructor competency; and teaching industry-specified and desired subject matter.

Each of the three levels of certification will require compliance with specific standards for the facility, instructor qualifications, and curriculum competencies.

Level 1 covers two and four-stroke engine competencies,

Level 2 covers electrical, driveline, hydraulics, and hydrostatic competencies,

Level 3 covers compact diesel & generator competencies.

Bruce Radcliff, incoming president of the EETC, said that "one of the primary goals of the EETC for the coming year is to provide accreditation to six to 10 schools in North America. The first school accreditation should be complete by early June."

A second goal outlined by Radcliff was for the EETC "to see a measurable increase in the participation of OPE dealers." He said the involvement and experiences of OPE dealers are needed for the success of EETC. For more information about the EETC, contact Virgil Russell, Executive Director, at 512/442-1788 or opecert@io.com.

Perusing a few regional newsletters, we find examples of the variety of tasks and concerns that can make for a busy day for the modern superintendent.

Color rotation in flower beds is the topic of discussion in a recent Central Ohio GCSA newsletter. Colorscapes that provide seasonal color are a good way to draw attention to your course if you've got it in your budget.

Two to six rotations of plants during a season provide the longest and best display, writes the contributor from Davey Groundskeeper. The length of the growing season and visual impact

desired from flower beds determine how many rotations to make during one season.

Three rotations are often used: the first is in spring, for the Midwest, Northeast and Southeast. Tulips and daffodils are of course the favorite spring bulbs.

Summer annuals such as begonias, impatiens and periwinkle perform well throughout the summer if they are properly watered and fertilized.

For the third rotation, go with mums, marigolds and flowering cabbage (kale). Pansies will be a nice addition in the fall, especially in the Southeast and Southwest from October 1 to October 15.

On to collies. Many superintendents continue to have success using border collies to herd geese away from golf course turf. Thankfully, the U.S. Fish and Wildlife Service states that no permit is required to merely scare a flock of...migratory birds other than endangered species or bald and golden eagles."

One caution: you are not permitted to scare geese away if they are actively nesting.

Superintendents in Washington state reportedly using herding dogs with success are Mark Cupit, Snoqualmie Ridge GC; Steve Hausman, Druids Glen; Dave Baber, Canterwood G&CC; Tom Corlett, Tam O'Shanter; and Tom Christy, Inglewood

Crews, collies and color fill a super's day



Terry McIver

TERRY MCIVER
Editor-in-Chief

GOLF

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Clean start for LACC greens

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The 'Lady' gets a great shop

PAGE 12 G ▶

Renovating? Look before leaping

PAGE 16 G ▶

Hot turf, stressed turf

CC. If you need some advice on using herding dogs, these superintendents are the ones to ask.

That news on collies came to us from *Turfgrass Management*, published by the Northwest Turfgrass Association, a group that's on top of turf news in Oregon, Washington, Montana and Idaho. Thanks to Donald Clemens for a copy of the premier issue.

Crew trouble got you down? Rick Osewalt, director of business management for New England Business Service, Inc., says you've got to take a businesslike approach with new workers. Use applications that are easy to understand, and be straightforward in the interview.

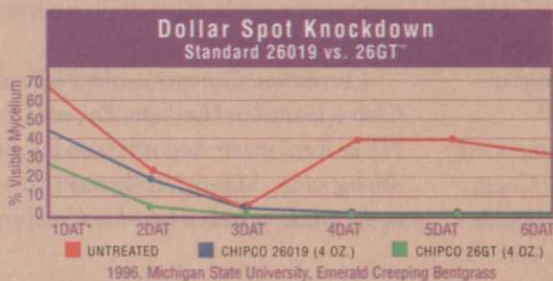
Provide written descriptions of all established company policies, from paid time off to attendance requirements.

Maintain complete and up-to-date records on each employee. Keep job performance files that include written information on attendance, changes in duties, salary or job performance.

Keep employees well informed. Make sure they know about changes in employment law, minimum wage law, overtime reporting and safety standards.

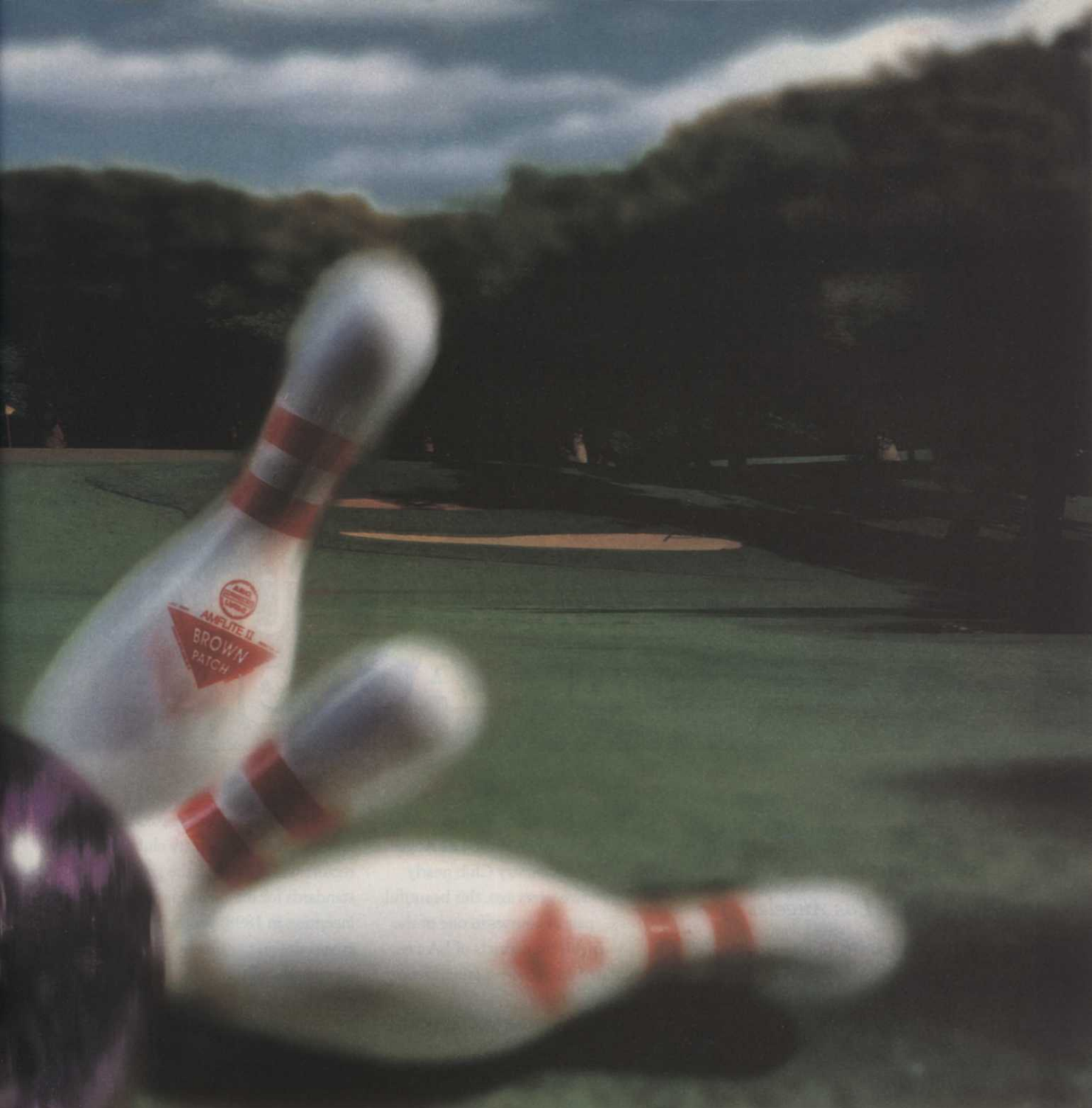
Correction: Commonwealth National Golf Club is located in Horsham, Pa., not Cranberry, NJ, as listed in our June article on the course's new driving range. Matrix Development, also mentioned in the article, is indeed based in Cranberry, NJ. **LM**

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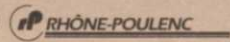
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*0DAY = Spray applied; DAT = Day(s) After Treatment
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Jon Peck, assistant superintendent at the South Course, looks out at the 5th green at LACC.

Clean start for LACC greens

Bruce Williams jumped in to a greens renovation program at the Los Angeles Country Club with a mandate to keep the topography as is.

By DON DALE

When Bruce Williams came to work at the Los Angeles Country Club nearly two years ago, this beautiful pair of courses in one of the high-rent districts of LA was in the middle of an extensive greens renovation program.

The North Course was half-completed, with the South Course due up next. Williams modified the program somewhat, but more importantly, kept a meticulous record of each step along the way.

That's because Bruce Williams is an exacting kind of guy. Which is a good thing, because Los Angeles Country Club is an exacting kind of golf venue. The two were made for each other.

The LACC project started in an odd way, because the country club board of directors was upgrading the greens to USGA standards for the first time since the club's inception in 1898; yet they wanted the greens design to remain exactly the same for the sake of tradition.

A laser survey was done to record the topography of the greens.



Bruce Williams: greens crew has things well in hand.

The old greens, sub-grades and drainage pipes were removed. A clean start was necessary for this project, Williams says, and it's vital to remove all the old contaminated debris and soil.

"You develop a smooth contour for the new subgrade," he says. That is composed of the native clay soil and follows the contour of the eventual green.

Nutritional balance before and after

Williams says that one requirement for healthy establishment and growing of a fine turf surface is a "heavy" nutrient balance prior to seeding.

"I'm a firm believer in having good nutrition at the beginning," he says.

His pre-plant mix was 70 pounds of Milorganite (6-2-0) per 1,000 sq. ft.; 40 pounds of Roots Topdress, organic matter derived from seaweed; 10 pounds of gypsum; 16 pounds of Scotts STEP for micronutrients; 5 pounds of Scotts starter fertilizer (19-26-5); and 15 pounds of sulphate of potash (0-0-50).

"That ends up being 5.15 pounds of nitrogen per 1,000, 2.7 pounds of phosphorus, and 7.75 pounds of potassium," Williams notes. "That might be more than some people would use, but I had good success with it."

Williams says the above formulation was based on his own experience and his colleagues' advice, based on their experience in growing in greens. He says he is a firm believer in going to the people who know the answers and taking their advice.

One of the reasons that he fertilized so heavily is "to establish appropriate levels of ferti-

lity in an otherwise sterile, sandy greens-mix." He used 1.1 pound per 1,000 of A-4 bentgrass seed. This seeding rate is lower than for other bent varieties, but it produces a plant population of 2,200 to 2,500 plants per square decimeter.

Follow-up nutrition consisted of 5 pounds of Scotts starter fertilizer per 1,000 sq. ft., applied weekly for three weeks. Top dressing, using the original greensmix material, was applied weekly for 10 consecutive weeks.

New greens were planted on June 1 and were ready for play in the first week of September. Total N used during that period was 9.55 pounds per 1,000; total P was 6.6 pounds; and total K was 10.64 pounds.

Growing a championship golf green is only half the battle. Williams is just as precise in maintaining it with a regular fertilizer schedule.

Fertilizer is the primary component of maintenance, and the greens get a weekly foliar feeding of Gary's Green (18-3-4 plus iron) at .9 pounds of nitrogen per week.

"We supplement that with a 1-0-14 product for an equal ratio of potash to nitrogen," Williams says. Soil and tissue testing is done regularly. Micronutrients are added as needed.

-DD

No choker needed here

For the drainage system, four-inch ADS pipes were laid in a herringbone pattern dug into the subgrade. The angles of the herringbones point down the slope to more efficiently catch water and carry it away. The pipe trench is backfilled with pea gravel.

"Then you put in a gravel layer—again maintaining the contour of the subgrade." Four inches of $\frac{1}{4}$ to $\frac{3}{8}$ -inch gravel does the trick, and 12 inches of top mix is the final layer. Williams decided he didn't need the "choker" or transition layer between gravel and top mix because the sizing of the gravel allowed for proper drainage.

The top mix consisted of 85% sand and 15% peat moss. Williams worked with a soil consultant to get the right sand.

"Once you get the top mix established you make sure it's compacted sufficiently so it's not going to sink on you," he says. That means light hand-rolling, because it should not be compacted so tightly that it loses its porosity.

Precise seeding of A-4

That plant population, along with the thin leaves of the A-4 variety bentgrass gives a very dense turf mat. It also has an upright growth habit, and this new-generation variety has been rated high in NTEP

trials across the country.

"It all equals quicker putting speeds without having to go to lower heights of cut to achieve it," Williams emphasizes.

He's aiming for 10 to 10½ on the Stimpmeter, and the ability to go to 11 or higher for tournaments and special events.

"We're able to achieve that without going below a .125-inch cut."

Half the seed was planted in one direction, and half at a 90-degree angle with a drop spreader, using Milorganite as a carrier to improve distribution and avoid skips. Hand leaf rakes were used, also working in two directions, to manually dig in the seed and remove footprints.



Poa annua on greens is removed by hand. Here, staffer Leopoldo Castillo gets the job done.

"Then we rolled it with a hand roller to accomplish soil/seed contact," Williams says. The greens were watered uniformly immediately after rolling.

At germination, Williams' able crew, led by North Course assistant superintendent Doug Martin and South Course assistant Jon Peck, applied Subdue fungicide uniformly to prevent pythium. That treat-



Bruce Williams with assistant superintendents Doug Martin, left and Jon Peck

ment was repeated every three weeks.

"Within seven days we had germination. Within 14 days we were able to mow the greens for the first time."

Double row works

Irrigation systems were improved on the new greens, and one feature of that facilitated the growing-in. Williams had double heads installed on the South Course greens, and that proved an excellent move.

"At times the greens required more water than the greens banks did," he says. Double heads allowed precise watering according to grass species and soil type.

Germinated greens were watered by manual operation of the sprinklers. Checked hourly during daylight hours, the greens were kept moist constantly.

Poa annua control

Getting rid of *poa annua* was one object of renovating the Los Angeles Country Club greens. Williams did that during the renovation, and is assiduously fighting its reemergence.

"We decided our best practice was mechanical removal of *Poa annua* plants," he says. That means the staff use knives to physically cut out poa plants found during the daily inspection program designed to locate and remove it from greens. Remaining patches in other areas of the golf course are attacked with Kerb or Progress.

"The men who mow our greens are re-

Lower the mower, slowly

As with everything Williams does as a greenskeeper, his selection of mower height on the growing greens was meticulous.

► The first cut was at .375-inch with a walking mower, no basket.

► Week 2: mower height was reduced to .250

► Week 3: .215

► Week 4: .200

► Week 5: .185

► Week 6: .170

► Week 7: .160

► Week 8: .150

► Week 9: .140

► Week 10: .130

► Today, greens are mowed at .125.

ally on top of it, and they do a wonderful job," Williams says of his crew.

It's worth noting that Williams credits his hard-working staff, especially his two assistants, with much of the success of the renovation—which also covered tees and bunkers.

The governing board's commitment in the \$2.5 million-plus renovation was crucial to its success, as was the support from General Manager Jim Brewer.

Williams, a past president of the Golf Course Superintendents Association of America, and one of the industry's more progressive superintendents, says it was "extremely exciting" to move into such a challenging situation.

"This, as a package, is rated one of the top country clubs in the United States," asserts Williams, who came to LACC from another fine course, Bob O'Link Golf Club in Chicago, where he was superintendent for 20 years. □

Don Dale writes for LM from Hollywood.



5th hole on the South Course of the Los Angeles Country Club



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This 'Lady' deserves the best

Superintendent Steve Humphreys put together a great golf maintenance facility one step at a time at the historic 101-year-old Dutchess Golf and Country Club.

By CAROLYN STEADMAN

The trend in maintenance facilities is toward more secure, more efficient and more worker-friendly structures. Often these buildings offices for the superintendent and other maintenance managers. Computers are commonplace. Many also have employee training/break rooms.

Such is the case at "Golf's Lady of the Hudson," the 101-year-old Dutchess Golf and Country Club,



Meeting room at the shop is used for lunch or educational sessions. At right is the Trion equipment lift.

in Poughkeepsie, NY. Superintendent Steve Humphreys is, seemingly, constantly upgrading the maintenance facilities there. He's been at it a while.

Humphreys came to Dutchess in 1970. He inherited greens with a mixture of annual bluegrass and South German bentgrass, and roughs of annual

bluegrass, ryegrass and some bent. He also inherited an 80' by 40' cinder block maintenance building. It was a fine facility for its time, and just a few years old. It contained the supply room, an office, a conference room, lockers, equipment inventory and chemicals. It also had one heated bay and two unheated bays.

But demands for better golf turf keep pushing for more intense maintenance, and the need to periodically upgrade maintenance shops and equipment/chemical storage facilities.

After the fire

After a fire destroyed a smaller storage building at Dutchess in 1981, Humphreys oversaw the building of a 20' by 40' cinder block building. It was built with a 42' drive-through between it and the main building. In 1985, he enclosed the drive-thru. In 1995, his crew improved the building by finishing off a staff room.

Today's 5600 sq. ft. building includes three heated and three unheated bays. When they were designed, Humphreys decided to put the doors on opposite walls for easier access to stored equipment. The major equipment servicing is done in the winter in the three heated bays. Each vehicle has the date of purchase painted on it. The club works on a drop



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Well equipped

The staff/lunch room is equipped with a television and VCR (for rainy days and training), three microwave ovens, and a handsome large oak table that Humphreys rescued from the trash at the clubhouse and refinished. The room is sealed from the floor to the ceiling. A large window looks out at the heated bays. Another window looks out on the 17th fairway. The greens

dead life cycle for all the equipment.

"The heated bays help us to meet the member requirement of maintaining not only the mowers and related equipment, but the ball washers, the benches, the trash baskets and the other accessories that are part of the game. They are all repaired and

committee holds its meetings in this room.

Humphreys says members are welcome anytime.

There's also a separate locker room with a washer and dryer. The locker room contains a shower, a bathroom and lockers for everyone which the five fulltime and between 11-13 seasonal golf course employees greatly appreciate.

Humphreys' office is in this building, too. Like the staff room, it's sealed from the floor to the ceiling and has huge safety glass windows that look into the shop and out on the course. He has a new computer and is a member of the GCSAA web site and TurfNet.

He uses the computer to glean information from the growing number of golf course web sites. "It's like being able to visit your neighbors on a rainy day and find how they are managing their problems. You can do it at your convenience. I do more of it in the winter than in the summer," explains Humphreys.

While change is often slow at a historic course like Dutchess, it comes nevertheless. Humphreys can document many of the recent ones. He has every work log for his long tenure there.

Humphreys says, "I maintain the course to keep the membership happy," which includes staying out of their way during play.

Crew members see themselves as the phantoms of the course. Their goal is to do all the maintenance before members tee off. Only the rough is mowed during play.

The Dutchess maintenance complex reflects the growing demands placed on golf course maintenance at Dutchess. The course has a maintenance facility that will serve "Golf's Lady of the Hudson" well into the 21st century. □

Carolyn Steadman writes on Green Industry topics from her office in Delmar, NY.

Humphreys uses the computer to glean information from the growing number of golf course web sites.

"It's like being able to visit your neighbors on a rainy day," he says.

painted during the winter," said Humphreys. A feature in one of the bays is the Trion equipment lift, a tool that Humphreys loves. "It's really increased our efficiency," he says.

Large windows made of safety glass allow lots of natural light into the improved maintenance building. The newest section also has skylights.



Never again will Humphreys or a crew member wonder if they have a certain part.

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IRRIGATION[®]

Look before leaping!

Before doing any type of renovation on your course—know what you have, determine what you want, then make sure you keep it separate from your regular maintenance program.

By ROBERT A. BRAME

Renovation is anything done to a golf course beyond regular maintenance. Even minor improvements which are not a part of regular maintenance should be considered renovation.

There are many reasons why you may want to improve your course, or some part of it: to improve aesthetics, to make it safer, to make it easier to maintain, for environmental reasons, or to improve fairness, although everybody will probably define the issue of fairness differently.

Safety is becoming an increasingly important reason for renovation. Many older courses weren't

cont. on page 14G



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designed for the number of golfers they're now getting. This increases the likelihood of accidents. Pay particular attention to the location of tees relative to fairways, or the location of cart paths relative to a green or a fairway.

Whatever your reasons for wanting to renovate, put together a plan that defines and communicates its need:

Research what you have on the course.

Bunker battles

Some suggestions to guarantee problems with renovated bunkers:

- ▶ don't remove sand before rebuilding,
- ▶ select poor quality sand,
- ▶ design to foster erosion problems,
- ▶ poor or inadequate drainage,
- ▶ don't provide supplemental irrigation for bunker banks.

Spell out exactly what you want.

Communicate clearly what you would like to do and why.

Separate renovation from maintenance.

The question of who should do the renovation always comes up. You might be tempted to do the project in-house, particularly if it's a small project. If you do, dedicate the necessary personnel for the renovation—and for that project only. Keep this work separate from regular maintenance. You can't do them both and do them well.

Besides, for most projects, you'll want to get them done as quickly as possible. Drawing out a renovation over many months, or perhaps several years, usually results in an increasing level of member frustration. Before starting a renovation, get a feel for what your members are willing to commit to.

It's almost always a good idea to hire an architect. Besides planning the details of the project, the architect can help explain and sell it to your membership. Somebody is going to have to be able to stand before the membership and answer the questions

Classic mistakes to avoid

- ▶ **Trying to be something that you're not.** There is only one golf course known as Augusta National, and there is only one course exactly like your own. Work on improving the strengths of your course. Don't imitate.
- ▶ **Not knowing what you have to start with.** Go through the files at your course (even attics or basements) for any original drawings, plans or photographs of your course. Check with longtime members. A local library or soil conservation service may have photographs of the course.
- ▶ **Mixing design themes.** This is not an uncommon mistake when renovating bunkers or tees. Keep them the same style around the course..
- ▶ **Reconstruction of tees or greens when a relatively simple correct environmental problem is at fault.** Look first at air movement or sunlight. Sometimes the condition of a green or tree can be improved by simply removing trees and opening it up.

New green blues

The poor performance of new greens can be due to one or more of any number of factors, including:

- ▶ using different soils, like rebuilding sand-based greens when others on the course are soil,
- ▶ grassing with a different turfgrass,
- ▶ rushing a green into play too soon,
- ▶ not building a nursery at the same time,
- ▶ not taking time to identify the best materials,
- ▶ sloppy construction.

and field the concerns of the people who are going to pay for the work. Your members need to see the long-term picture, not the short-term inconveniences.

Make sure you're aware of the architect's qualifications. Do his/her ideas and philosophies fit with your club's finances and philosophies. Get out and look at other similar projects they've done. Check with other superintendents who have worked with the architect. Would they hire that person again?

Be equally diligent in hiring any contractors that you're considering for the project. Have they done similar projects that you can look at? Again, talk to other superintendents who have worked with them. Be sure to let contractors know about the agronomic conditions of your course, particularly if they're unique, before they

begin the job.

Be aware that there are things to consider that might be affected by your renovation. Will you need to change your irrigation? Add or relocate a sprinkler head? Install additional lines? Require more pump capacity? Will you need to add or improve drainage? Buy or lease additional maintenance equipment as a result of the renovation? Increase the size of your maintenance building? Think ahead.



Bob Brame advises to keep renovation separate from maintenance.

As you look at renovation work on your course, make sure you have the infrastructure in place to handle it. Don't bite off more than you can chew, especially in the first year. □

—This article was adapted from a talk given by Robert A. Brame, Director of the USGA Green Section's North Central Region, at a seminar in Rocky River, Ohio, this past April.

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Hot turf, stressed turf

Mid-summer is here. Be aware of the effects of heat stress on yourself and your crews, but also on your turfgrass.

That's why it's probably a good idea to keep a soil thermometer handy. And to use it, particularly when temperatures start getting uncomfortable.

Excessive heat can weaken or, if soil temperatures become hot enough, kill turf. But heat alone may not be the only reason why turf may begin to decline in mid-summer. This is the season when traffic is heaviest on the turf. Conditions are favorable for some summer diseases. Also, drought stress, particularly if the turf is not irrigated, can be a factor.

"Environmental stresses are a real challenge in our maintenance of turf," said Dr. Karl Danneberger to about 100 superintendents at a USGA regional seminar in



Dr. Karl Danneberger, of The Ohio State University, says that when turfgrass is under severe stress, it stands a better chance of survival and recovery if you don't disturb it too much.

RELATIVE HEAT HARDINESS OF 19 TURFGRASSES

HARDINESS RANKING	SPECIES
Excellent	zoysiagrass
	Bermudagrass
	buffalograss
	carpetgrass
	St. Augustinegrass
Good	tall fescue
	meadow fescue
	colonial bentgrass
Medium	creeping bentgrass
	Kentucky bluegrass
	Canada bluegrass
	chewings fescue
Fair	red fescue
	annual bluegrass
	perennial ryegrass
	redtop
	Italian ryegrass
Poor	rough bluegrass

—From "Turfgrass Science and Culture," Prentice-Hall, Inc., by James B. Beard

Cleveland this past spring.

The Ohio State University turfgrass expert said the optimum soil temperatures (measured at 1-2" depth) for growing creeping bentgrass are very narrow--50° to 64° F for optimum root growth; for optimum shoot growth 50-75° F.

He said that when the soil temperature exceeds 75° F the root system of the creeping bentgrass decreases by 50 percent.

"When temperatures reach that, your turf can look fine. It will be nice and green, and maybe you may have too much growth going on. But underneath, that plant is losing its root system and that can cause problems," said Danneberger.

There is a reduction in amount of energy the plant is able to store for growth, and loss of carbohydrates. This usually becomes evident in a secondary fashion. For instance, the turfgrass becomes less tolerant to traffic.

Less commonly, excessive heat (when the soil temperature rises above 104° F), can kill turfgrass.

While superintendents can't control Mother Nature's heat, they can lessen the effects of heat stress, said Danneberger.

For instance, mowing greens at 1/8 inch

or less provides precious little canopy over the soil surface, and, of course, is a stress of its own. Consider temporarily raising the cut during summer's heat.

Studies have also found that shaded turf is more susceptible to heat stress. Increase air movement by pruning (or removing) trees or shrubs adjacent to greens or tees with stressed turfgrass.

Clippings? While it doesn't hurt to leave them on in the spring or fall when the turf is actively growing, collect them when it's hot.

Also, be careful with topdressing when the turf is heat stressed, said Danneberger. Putting down another layer of material, particularly at noon or mid-afternoon, can cause a rapid temperature buildup in the soil.

Syringing greens during the heat of the day can drop soil temperatures several degrees rather rapidly.

After the turfgrass survives heat and all the other stresses of summer, and the temperature begins to drop again, that's when it begins building root mass again. "Late-season fertilization is a critical time in a plant's recovery from stress," said Danneberger. **LM**

LANDSCAPE
management

July 1998

This card is void after Sept. 15, 1998

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 - 03 260 Lawn Care Service Companies
 - 04 265 Custom Chemical Applicators (ground and air)
 - 05 270 Tree Service Companies/Arborists
 - 06 275 Landscape Architects
 - 07 280 Land Reclamation and Erosion Control
 - 08 285 Irrigation Contractors
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 - 11 300 Right-of-Way Maintenance for Highways, Railroads or Utilities
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 - 22 355 Extension Agents/Consultants for Horticulture
 - 23 360 Sod Growers/Turf Seed Growers/Nurseries
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 - Other (please specify) _____
2. Which of the following best describes your title? (fill in ONE only)
- 26 10 Executive/Administrator- President, Owner, Partner, Director, General Manager, Chairman of the Board, Purchasing Agent, Director of Physical Plant
 - 27 20 Manager/Superintendent- Arborist, Architect, Landscape/Grounds Manager, Superintendent, Foreman, Supervisor
 - 28 30 Government Official- Government Commissioner, Agent, Other Government Official
 - 29 40 Specialist- Forester, Consultant, Agronomist, Pilot, Instructor, Researcher, Horticulturist, Certified Specialist
 - 30 50 Other Titled and Non-Titled Personnel (please specify) _____

3. Is your golf course: 31 A Public 32 B Semi Private 33 C Private 34 D Hotel/Resort 35 E Municipal

4. If you work for a golf course, how many holes are on your grounds?
 36 1 9 37 2 18 38 3 27 39 4 36+

5. How many acres are maintained at your facility? _____

6. SERVICES PERFORMED (fill in ALL that apply)

- 40 A Mowing 45 F Turf Fertilization 50 K Paving, Deck & Patio Installation
- 41 B Turf Insect Control 46 G Turf Disease Control 51 L Pond/Lake Care
- 42 C Tree Care 47 H Ornamental Care 52 M Landscape Installation
- 43 D Turf Aeration 48 I Landscape/Golf Design 53 N Snow Removal
- 44 E Irrigation Services 49 J Turf Weed Control 54 O Other (please specify) _____

7a. Do you specify, purchase or influence the selection of landscape products?
 Yes No

7b. If yes, check which products you buy or specify: (fill in ALL that apply)

- 55 1 Aerators 62 8 Herbicides 69 15 Sweepers
- 56 2 Blowers 63 9 Insecticides 70 16 Tractors
- 57 3 Chain Saws 64 10 Line Trimmers 71 17 Truck Trailers/Attachments
- 58 4 Chipper-Shredders 65 11 Mowers (reel/rotary) 72 18 Trucks
- 59 5 De-icers 66 12 Snow Removal Equipment 73 19 Turfseed
- 60 6 Fertilizers 67 13 Sprayers 74 20 Utility Vehicles
- 61 7 Fungicides 68 14 Spreaders

8. Do you have a modem? Yes No

101	113	125	137	149	161	173	185	197	209	221	233	245	257	269	281	293	305
102	114	126	138	150	162	174	186	198	210	222	234	246	258	270	282	294	306
103	115	127	139	151	163	175	187	199	211	223	235	247	259	271	283	295	307
104	116	128	140	152	164	176	188	200	212	224	236	248	260	272	284	296	308
105	117	129	141	153	165	177	189	201	213	225	237	249	261	273	285	297	309
106	118	130	142	154	166	178	190	202	214	226	238	250	262	274	286	298	310
107	119	131	143	155	167	179	191	203	215	227	239	251	263	275	287	299	311
108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312
109	121	133	145	157	169	181	193	205	217	229	241	253	265	277	289	301	313
110	122	134	146	158	170	182	194	206	218	230	242	254	266	278	290	302	314
111	123	135	147	159	171	183	195	207	219	231	243	255	267	279	291	303	315
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Small business owners with no design or computer experience can now use innovative touch-screen technology to create professionally designed promotional products and essential business forms in as little as 10 minutes.

A select number of PostNet, Merchandise Mart, Le Print Express (located in Wal-



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The NEBS Custom Printing Station offers small business owners many other advantages. The kiosk accepts credit cards, offers a customer support telephone line directly to NEBS, and has built-in design aids and thousands of pre-designed logos. A full guarantee is included.

For more information, contact NEBS at 978/448-6111, or

Circle No. 270

A Non-Zap Insect Control

This zapless, sprayless system uses ultraviolet light and a combination of special attractants to lure flies and other insects into a decoyed entrapment surface. An auto-advance, replaceable cartridge system, which is effective for 45 days on a single cartridge, automatically advances a fresh adhesive surface and fresh attractants.



Designed for commercial use where food preparation occurs, this system is appropriate for any location where flying insects, particularly flies, are a problem. The unit is unobtrusive, looking more like a wall sconce than an insect control device and can be used indoors and in protected outdoor situations.

For further information call Larry Taylor at 402/563-3625; fax 402/564-2109; or

Circle No. 271

Getting smaller for easier use

Rhone-Poulenc now has Chipco®Ronstar® brand oxadiazon herbicide in 1.5-ounce soluble packets. Specially suited for small weed jobs and back-pack application, one to two packets will treat 1,000 ft². Packets begin dissolving immediately upon contact with water and minimize applicator exposure. Use and storage of the product are simplified and provides control of annual broadleaf and annual grassy weeds.

For a laminated guide on how to use the Ronstar 1.5-ounce water soluble packets call 800/334-9745 and ask for item RP-63108. To purchase the product contact your local Chipco sales rep or distributor.



Circle No. 272

Durable deck light

The new Deck Lyte from HADCO is designed to withstand the effects of salty coastal air, acid rain, chemical lawn treatments, and whatever else you can throw at it. Backed by a 10-year limited warranty, the Deck Lyte features fiberglass reinforced composite construction and long-lasting 10-watt halogen lamping. The lights can be mounted on the

surface with downward light projection and no glare, or they can be inverted and installed above eye level as a mini wall sconce.

For more information on the composite Deck Lyte call Jim Lilley, technical specialist, landscape lighting at 717/359-7131 or

Circle No. 273

Step-in posts are easy to install

North Central Plastics has introduced 'Step-In' posts which are easy and fast to install for temporary setups. Constructed for long, repeated use these posts are ideal for roping off areas on golf courses such as re-seeded areas, out-of-bounds markers etc. Any



type of rope can be used and is snapped into place with no additional installation. Constructed of polystyrene with girder-like, reinforcing cross-sections their entire length, Step-In posts are non-corroding and made to last in 48" and 24" lengths.

For more information call North Central Plastics, Inc. at 800/533-2091, fax 507/684-3722, or

Circle No. 274

Get charged up

Taylor-Dunn introduces the ET3000, an electric powered utility truck designed specifically for utility operations in airports, amusement parks, college campuses, military bases, resorts and golf courses. The benefits include lower operating and maintenance costs with a quiet engine and zero emissions as well as 4-WD hydraulic brakes, load range E tires and a cabin designed for maximum visibility. With a 48-volt drive train and 15-hp motor, the ET3000 has a top speed of 18 mph and a range of 50 miles on a single charge, can carry payloads up to 3,000 lbs. in rugged conditions and has an automotive differential that allows it to climb grades up to 15%.

For more information contact Taylor-Dunn Manufacturing at 714/956-4040, fax 714/956-3130 or

Circle No. 275



Affordable pond and tank liners

Aqua-Weve, from Yunker Plastics in Wisconsin, is a woven, reinforced polyolefin fabric which gives strength without added weight and has UV additives for superior weathering. Available in clear and colored materials, Aqua-Weve is free of plasticizers and other additives, making it safe for most uses, including potable water. Liners can be manufactured both in large sections to minimize field seaming and as fitted tank liners (both circular or square-cornered).

For more information contact Yunker Plastics, Inc., P.O. Box 190, Lake Geneva, Wisconsin, 53147; fax 414/249-5239 ; or

Circle No. 276



A natural look in paving

Pavestone PLUS of Cambridge, Ontario, Canada has introduced a new line of paving modules. Unique manufacturing processes produces the appearance of natural stone with its irregular, ridged surfaces. An addition, the Color Magica process allows colors to flow through the stone for a marbling effect. Strasa Tuscanni tiles

have the appearance of slate and come in 16x16x2" and 16x24x2". Strasa Romano has the look of cobblestone in 16x16x2" tiles, while Romano Curvo creates circles, arcs and fans in cobblestone. Strasa Colonia looks like traditional brick with a dimpled surface in 16x16x2" tiles.

For more information call (800) 265-6496, fax (800) 276-3091, or

Circle No. 277

Landscape rake for ATV's

Worksaver, Inc. has a new product for ATV's and garden tractors. The landscape rake is ideal for grading, leveling and spreading various materials including topsoil, stone, gravel and cinders; and can also be used for smoothing baseball diamonds, final-grade parking lots and more. Designed for 10 to 22-hp, the rake is available in three models and has five angle positions for easy operations. In addition, the rake has a turnbuckle adjustment to control operating depth, a rope



pull lever to raise the unit while turning or dumping and a clevis-type hitch.

For more information call 217/324-5973; fax 217/324-3356; e-mail sales@worksaver.com; website www.worksaver.com; or

Circle No. 278

Mini-landscaping tools for small areas

V&B Manufacturing, Arkansas, has introduced their Mini-Groundbreakers, landscaping tools designed for small area garden projects like installing water gardens, finishing beds, setting stepping stone and laying boards or timbers. The Mini-Tiller, Mini-Planter and Mini-Pick are short-handled and lightweight, and the hammer swing action allows the tools to do most of the work. Each of the multi-purpose tool heads has a digging mattock blade. The tools are contractor grade and have corrosion-resistant tool heads with a rectangular fit to the handle to prevent loosening and twisting on impact.

Contact V&B Manufacturing, 800/443-1987; or

Circle No. 279



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The Impluse is a light-weight, low-cost laser from Laser Technology, Colorado. Only two pounds and easy to use and carry, the laser is able to acquire a height or distance in less than a second without prisms or reflective targets. The Impluse is 1/3 the cost, weight and size of the Criterion product line from Laser Technology. General height and distance measurement, material estimating for job bids

and construction site measurements are only a few applications possible. The serial port outputs data directly into one of Laser Technology's mapping software products or any preexisting software a customer may have. Models with a tilt sensor are also available.

For further information call 303/649-1000; fax 303/649-9710; website www.lasertech.com; or

Circle No. 280



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The lightweight Lely Thatcher, available in 7.5, 10, 15 and 20 feet widths, require only a small tractor with a three point linkage to use. The two larger models consist of two frames which carry the tines and fold vertically to 7.5 feet for transport, while the two

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For more information call Dale Own at Lely Pacific at 541/926-7753, fax 541/967-1236 or

Circle No. 281

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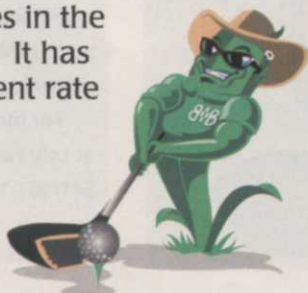
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Circle No. 112



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Circle No. 115

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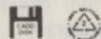
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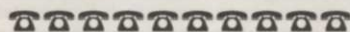
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Grab Bag

Good-bye to the mowing job?

When retired Illinois electrician Frank Capaci won a record \$104.3 million prize (\$68 million after taxes) in a state lottery in May he said he expected to keep his job cutting grass at a golf course near his Carol Stream, IL, home.

This prompted several remarks in the "Turf Talk" forum on the GCSAA web site.

"Why doesn't he buy the golf course?" offered one superintendent.

Opined another, "If I won \$68 million the last thing I would do is cut grass on a golf course! The second thing I wouldn't do is buy one."

Happy Anniversary to Chapel Valley

Happy anniversary to Chapel Valley Landscape Company. It's celebrating 30 years of providing exterior landscape services to Baltimore, Washington, and Northern Virginia communities.

Founded by Landon Reeve and his late wife Janet, Chapel Valley has 240 employees, including seasonal staff, and two offices in Woodbine, MD, and another in Dulles, VA, as well as satellite offices in Bethesda, MD, and Crystal City, VA.

"Quality, service and innovation have defined our company's approach since its inception," says Landon Reeve. "Our success is due to striving for, and maintaining, a high level of customer satisfaction."



Now available: trees from country music stars

Recognize the guy on the left? That's William Lee Golden, one of the Oak Ridge Boys recording artists. He and about two dozen other country music stars allowed the seeds to be collected from their favorite trees growing at their homes. The small trees are now being sold for fans and as special gifts. The idea is part of the Famous & Historic Trees project operated by American Forests. Jeff Meyer, project director American Forests, is on the right. For information call 800/320-8733 (e-mail famoustrees@msn.com).

Plant pathologist dies in automobile accident

Dr. Janell Johnk, 35, extension plant pathologist at the Texas A&M Research and Extension Center in Dallas, was killed May 6 in a six-vehicle accident in Frisco, Texas. Dr. Johnk was traveling to Prosper, Texas to prepare for a wheat field day when the accident occurred. Texas A&M technician, Crystal England of Denton, driving another vehicle, also was involved in the accident but not seriously injured.

Colleagues say they will remember Dr. Johnk for her upbeat way of communicating her science to laymen in understandable terms. Dr. Johnk had been working recently on the oak wilt problem which now threatens oak trees in North and Central Texas, training arborists on how to identify and treat it. A memorial service was held on June 30.

She is survived by her husband Mike and their two-year old daughter Kayla, her father, two brothers and a sister. An education fund for her two-year old daughter has been established. Checks should be made payable to: Kayla Johnk Education Fund and mailed to Dr. Ellen Jordan, Texas A&M Dallas, 17360 Coit Road, Dallas, TX 75252-6599.

Grab Bag features brief observations and prognostications throughout the green industry. If you have an unusual photo or comment you'd like to share with us, please send it in...

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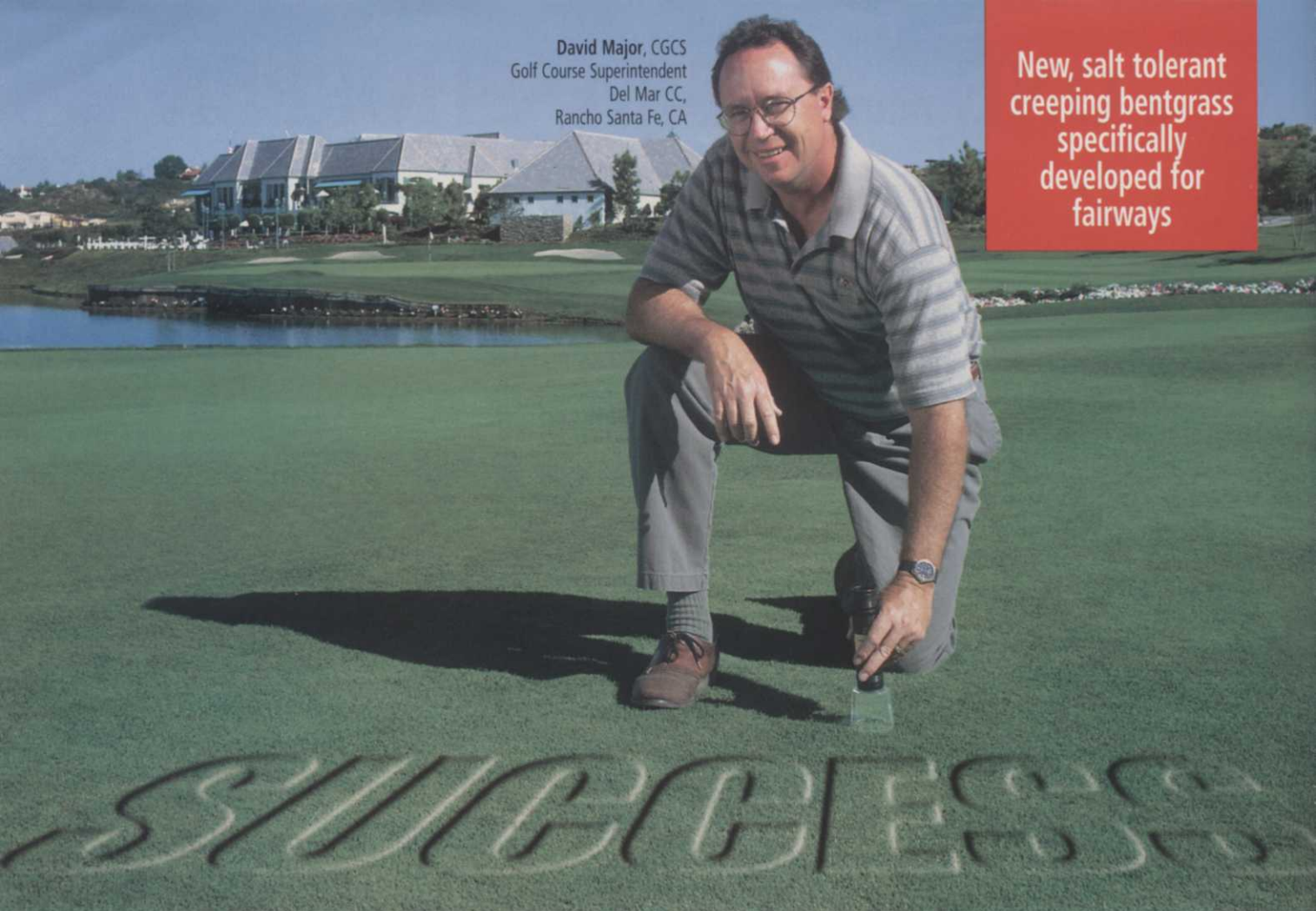
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