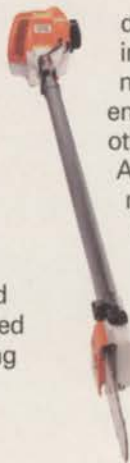




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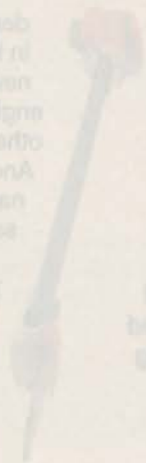
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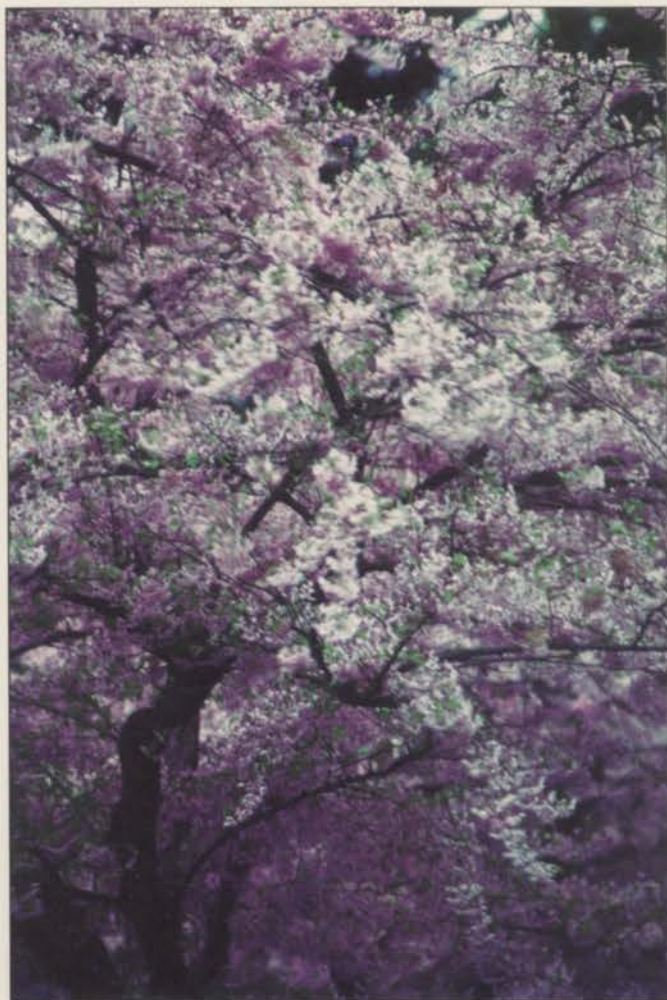
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Right tree... *right place*

Whether we see them at home, at work, or on a drive through town, trees improve our quality of life. But place them properly, with consideration to the trees' mature size, lifespan and best growing environment.

by H. S. STEVENS

Shade trees make our homes and neighborhoods more attractive, reduce heating and air conditioning costs, and increase property values.

► When shopping centers and office buildings are landscaped with shade trees, both employees and customers feel more welcome and at ease.

► City planners recognize their value in "softening" the feel of business areas, making downtowns more attractive to tourists and to new businesses.

► And it is a proven fact that hospital patients whose windows look out on a green scene recover faster than patients who can view only the next brick wall.

► Yet, all these benefits are lost if we fail to plant the right tree in the right place. Drive down almost any street in almost any city and you will see trees that are dying prematurely from disease or insect problems; trees that have outgrown their surroundings and trees that are weak and unsightly because they are in the wrong climate or wrong type soil. Most of these problems could have been prevented by putting the right trees in the right places.

When recommending, selecting or planting trees, there are 10 factors to consider.

1) **The purpose for which the tree is intended.** Deciduous trees, planted on the south side

of a home or other building will block sunlight in the summer and allow it to enter during the winter months, keeping the building more comfortable year around and reducing both heating and air conditioning costs.

Evergreen trees planted on the north side of a building act as a wind break and can further reduce heating costs during the winter. A row of evergreens, placed behind a row of dense shrubs, makes the most effective noise barrier along streets or thoroughfares.

2) **The mature size and form of the tree.** For one story buildings, select a tree whose mature height will be no more than about 35 feet. You don't want the tree to dwarf the

building. Taller trees are better for two story homes.

The form of the tree is also important. A broad, low-hanging tree may be perfect for a park or yard, but out of place too near a building or along a driveway. On the other hand, a slim, upright tree would be suitable for lining the driveway, but provide little shade for a sunny deck or patio. Foliage density is another consideration. Do you want dense shade or dappled shade? Will grass or other plants be grown under the canopy of the tree?

Choose the type tree accordingly. For example, it will be easier for turf to grow in the lighter shade of a Lacebark elm than in the dense shade of a

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Northern red oak or Southern magnolia.

3) Lifespan. In most cases, fast growing trees are also short lived trees.

Although fast growers will provide significant shade in a comparatively short period of time, they will also mature, decline and die more quickly. A homeowner doesn't want to have a tree removed just when he or she is planning to retire and enjoy sitting under it.

4) Hardiness. In the north, hardiness is a matter of how low winter temperatures can become before tree damage oc-

pollution. Some trees do best in sandy soil; others prefer alkaline soil. Some require acid soil; others need neutral to slightly alkaline soils. Because iron and zinc can be tied up in alkaline soils, trees native to acid soils will become chlorotic and unsightly when planted where the soil pH is high.

In cities, soil compaction can be a major problem. Rain-fall tends to run off rather than soak into the root zone of the tree. And trees near streets or planted in wells in shopping mall parking lots suffer not only from lack of moisture, but

make them undesirable in certain places or situations. Roots of certain willows, elms, and maples are sewer cloggers and should always be planted away from sewer or water lines. In the south, large leaved trees can put on excess foliage during rainy spring weather, then compensate by shedding leaves all over the lawn as soon as the weather becomes hot and dry. Some shallow-rooted trees can crack sidewalks. The fruit of certain female trees, such as ginkgo or Russian olive, can be extremely messy on sidewalks or driveways. Consider all of these characteristics when deciding where trees should be placed. Even the acorns of some of our most beautiful oaks can be a nuisance under certain circumstances.

7) Susceptibility to insect and disease damage. Insect and disease problems are intensified when there are concentrations of one family of tree in any given area. The increase in losses from oak wilt during the past few years is a prime example. Dutch elm disease has wiped out thousands of American elms, and sycamores in Texas are dying from anthracnose and blight. Arizona ash is a poor risk because of borers. In areas where cotton was a major crop, cotton root rot is a major problem for cottonwoods and Bradford pears. Be sure that the trees you plant are not subject to the particular insect and disease problems that may be prevalent in your area, and avoid concentrated planting of any one species.

8) Be aware of local landscape ordinances. Many cities are writing or rewriting land-

scape ordinances that prohibit the planting of specific species of trees and offer incentives for planting certain other species. Lists of acceptable varieties are usually included in the ordinance.

9) Obtain current, local recommendations before planting. It is impossible for any book, magazine or other source to provide a list of trees that will grow well throughout any particular region of the country, whether it be north, south, east or west. There are too many variables within each region. Soil type, drainage, and other factors can vary considerably within a comparatively small area. And don't assume that the same trees that were highly rated a few years ago are still recommended. Because of new insect or disease pressures, trees that were considered good a few years ago may no longer be acceptable.

Obtain a current recommended variety list for your particular city or locale from your nearest Cooperative Extension Service office, then make your selections from that list based on the factors outlined above.

10) Buy trees from reputable nurseries. The best variety of tree has little chance of success if it is improperly dug or mishandled at the nursery.

LM

The author, a former horticulture instructor based in Lancaster, Texas, writes a weekly gardening column for the Dallas Morning News.

Insect and disease problems are intensified when there are concentrations of one family of tree in any given area. The losses from oak wilt during the past few years is an example.

curs. In the south, both winter cold and summer heat are important considerations. Trees native to northern states are not affected by southern winters, but can easily succumb to the heat of southern summers. And trees on the northern edge of their adapted range may do well during average winters, but be severely damaged by unusually low temperatures or extended periods of below freezing temperatures. Be sure the trees you recommend or plant are reliably hardy in your area, and will survive severe as well as average winters.

5) Environment. Environment includes soil type, condition and pH; available moisture; and the level of air

from poor aeration, as well. When planting in confined areas, choose varieties that tolerate that environment, and set out small rather than large trees. Younger, smaller trees adapt more easily to unfavorable conditions and have a much better chance of survival.

Urban air pollution can add to the problem. Some species of trees, like ginkgos, for example, can withstand the smoke, fumes and stress of urban conditions; other cannot. For long-term success, it is imperative that we match the requirements of the tree with the environment in which it will be planted.

6) Characteristics. Some trees have characteristics that

Tomorrow's landscape trends are on the way now



Ron Hall

RON HALL
Senior Editor

Dr. Gary Knox, at a recent conference, offered some trends he sees influencing the landscape industry. His comments echoed what my wife increasingly talks about. Knox is an associate professor in the Department of Environmental Horticulture at the North Florida Research & Education center. My lovely wife of 28 years, Vicky, is a gardener.

She subscribes to several slick (and costly) garden magazines; her favorite cable network is the Home and Garden cable television channel; and,

she spends hours each week tending her garden.

Perennials. Roses. Ornamental grasses. Vines. She collects, plants and fusses over them all.

She's creating "an English cottage garden." To that end, a few years ago, she acquired four wooden pillars that a neighbor discarded after rebuilding his porch. I used the pillars, under her careful eye, to construct a huge columned entrance to her gardens which I refer to as the Colossus of Rose Ar-

bors—but that's another story.

One Sunday in April, while Vicky was away for the day, I got itchy to do something. My attention wandered to the garden, *her* garden. I started splitting sedum and replanting them. A few here. Uhm, a few over there looks nice.

This was not a good idea. When she'd discovered what I had done, she offered convincing reasons why it wasn't a good idea. I promised never to garden without her supervision again.

Knox says during the 1980s the public:

- ▶ began demanding more color in its landscapes. He uses the term "Disneyfication."
- ▶ became aware of native plants.
- ▶ discovered the concept of low maintenance.

These trends continue, especially the use of perennials in our landscapes. But our lifestyles are

[LANDSCAPE/GROUNDS]

PAGE 6 L ▶

Santa Barbara crew likes tall fescue

PAGE 10 L ▶

Tips for 60-hour stadium weeks

PAGE 16 L ▶

Theft and fire can ruin your day

PAGE 21 L ▶

Rescue your fields with volunteers

PAGE 24 L ▶

Moving, replanting a big, big tree

changing. For instance, many of us seem to have less free time. Larger numbers of us are live in downsized homesteads like condos and townhouses. And, trend watchers use the word "cocoon" to describe our growing desire to stay at home to recreate and entertain.

These changes are, generally, good for the landscape industry, believes Knox.

What does Knox see as hot for the landscape industry for the remainder of the 1990s?

- ▶ Landscaped areas as "outdoor rooms".
- ▶ Speciality gardens. Wildlife gardens. Water gardens.
- ▶ Native plants, those looking more like domesticated plants. He calls them "refined" natives.
- ▶ Heirloom plants. "Good things from grandmother's garden," explains Knox.
- ▶ Trellises and vines. Maybe even bamboo.
- ▶ Garden furnishings. Statues. Terraces. Fountains.

These are things my wife and all of her friends now talk about. Most of her friends don't have the time to garden. They will hire the landscape professional that talks their language. **LM**

Comments? Phone Ron at (216) 891-2636; fax him at (216) 891-2683 or E-mail him at rhall@advanstar.com



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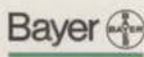
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Two facts stand out about employee training in the lawn care industry.

1) Most companies do a poor or half-hearted job of it.

2) Those firms who believe in and concentrate on training are by far the best in the business.

Wow! What a revelation. Aren't both statements true in virtually every industry?

Yes they are. The problem with ours is that we still don't seem to recognize what many other industries have known for a long time.

We still struggle with, ignore, or avoid raising the abilities of our employees.

Here's what we lose when we don't adequately train employees:

► We send new employees a message, a clear message that we don't care about them, or about the quality of work they do. They are a piece of machinery. If we don't care, why should they?

► We send a message to our customers. Remember, our employees

are often the only link between our company and our customers. If our employees doesn't know what they are doing, if they can't answer questions or conduct conversations with a customer, if the employees' appearance and demeanor are less than professional, this all reflects on our industry, and on us business owners.

► We send a message to those who oversee and regulate this industry. An Indiana State Chemist field officer once told me that his single biggest complaint is that many lawn care technicians cannot tell him what they are applying. They don't know. Nobody has taken the time to tell them.

In Indiana, we have tried to address the training of new employees with a trade-sponsored Technician Training Program. It's purpose is to

give new employees a basic training course in lawn care.

A more comprehensive program is the Certified Turf Professional program offered by the Professional Lawn Care Association of America (PLCAA) in cooperation with the University of Georgia. To learn more about this contact PLCAA at (770) 977-5222 or (800) 458-3466.

Even without proper training, some of our employees are ambitious and tough enough to make it. It's just as vital to provide these people with additional training as it is to train new employees. These "veterans" can become leaders and supervisors. But they won't continue to be effective if they're left to stagnate. The industry changes, and so should they.

Also, these are the people that allow us to expand if a growth opportunity presents itself. But, we can't expand if we can't spare a good person from our existing operation. A business must have experienced and resourceful backup people.

The industry needs people that are trained beyond being required to listen to yet another round of weed or insect control updates, and getting their certification credits. There is a lot more to this business, and we, as owners and managers, must insist that our technicians learn this too.

This should include continued education in business management and supervision, areas that are really lacking in most of our training programs.

If you know of a good source for lawn/landscape employee training in subjects like people management, purchasing, quality control, or small business accounting, please let me know at (317) 846-7131. □

We should expand our ideas about training



BOB ANDREWS

Contributing Editor

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Santa Barbara school crew likes its fescue

by DON DALE

Mike Bishop's brush with greatness occurred when Bill Clinton and 20,000 Clinton supporters trampled over the turf at Santa Barbara City College during a rally in 1996.

Afterwards, it took this grounds supervisor and his crew a lot of work to repair the turf, but he didn't mind.

"That was the icing on the cake, when the Clintons came out here," recalls Bishop. "One of the first things the President said was how beautiful the campus is."

Santa Barbara City College sits on the bluffs overlooking the Pacific Ocean. Students gather and contemplate life and mid-terms on its rolling hills.

The turf at the college is wall-to-wall fescue, including the athletic fields. "Triple Crown" tall fescue is used; it's a three-variety mix from Stover Seed located in Los Angeles. The mix is equal parts of Veranda, Olympic II and Empress tall fescue.

"It's a great grass; it does really well out here," says Bishop. In the mild, wind-swept climate, the turf is very easy to maintain,

even though it is irrigated with treated wastewater.

"Fescue is really a durable grass," says Bishop. "It does well in coastal areas." Bishop doesn't have to worry much about fertilizing most of the 40 acres of turf around the grounds, thanks to the nutrients in the tertiary, reclaimed water. The athletic fields, however, are kept well fed, with three applications of a 16-6-8 Scott's Supreme fertilizer to give it recuperative growth.

There are also two acres of high-use turf areas on the coastal bluffs that receive two or three applications each year.

To repair the area trampled during the Clinton rally—because even tall fescue can take only so much punishment—Bishop and his crew topdressed with 20 or 30 tons of washed plaster sand. The sand is washed to remove salt.

"Extra water was also added, though with heavy winter rains, we didn't have to irrigate much more than usual."

Fescue 'zips' through

The washed plaster sand is expensive (\$17/ton) but Bishop says it's a must because other types of sand contain salt that retard turf growth. The fescue just 'zips' through the good sand, Bishop says.

The football field receives a similar top-dressing if money is tight.

"Before the season," explains Bishop, "we'll resod the playing area if we have enough money." If funds are lower, he gives the field an application of 200 tons of the washed plaster sand, at a cost of \$3400, including delivery.

Either way, the field is prepped after the previous football season by having a tractor grader level the damaged field—which sees lots of action from college and high school football. If funds to resod are not there, the treatment is begun during



Mike Bishop says a three-variety mix of tall fescue thrives at Santa Barbara City College.



Crew chief Nacho Garcia, left, and Ricardo Valenzuela do such good work that most irrigation installations at SBCC are done in-house. A 12-person crew keeps the college green.

the winter, since it takes months for the grass to recover.

Resodding is done, when the money is available, six weeks prior to the season.

The sandy loam of the Santa Barbara bluffs is perfect for the fescue, says Bishop. He has the turf dethatched twice a year in high-visibility areas, and he mows once a week in summer, at a height of 2½ inches.

Water watchdogs

The city's "water enforcement police" are always out, says Bishop, and that means sensible scheduling and periodic sprinkler adjustments. The treated water is a potential health hazard, and the water police will shut the system down if they see puddles of standing water.

The scrutiny over water use intensifies in times of drought.

Along with tree modifications, a current trend at the college is toward more "intensive" landscaping, such as small planters in tight areas around buildings. Bishop says this is where you know you have a good crew, because that type of landscaping requires a lot of meticulous hand labor.

12-man crew a 'can do' bunch

Bishop says he has a "terrific" grounds crew, and for that reason he agrees to let them handle jobs that might ordinarily be contracted out, such as irrigation installation.

"It's actually better for the crew to do that," Bishop says, because they are determined to do a quality job, and they know exactly where all water lines and valves are located for later work.

"An in-house crew buys into the job and takes it on as its own," says Bishop, who adopts that philosophy on all campus projects.

His crew has a great attitude about its work, and crew members put their hearts into every irrigation-related project. His ir-

Tree care tricky with wind, wastewater

The tree maintenance program at Santa Barbara City College is "in a state of flux," says Mike Bishop. Many non-natives are being replaced with native trees.

This particularly applies to eucalyptus trees which are intrusive and have brittle limbs that tend to fall in high wind. Bishop works with Jerry Sortemme, head of the college horticulture department, and a landscape architect to select appropriate species.

Trees must do well on treated wastewater. *Agapantha* and *raphyolyptis* are not native, but are used because they grow well in the reclaimed water.

Oaks are a preferred tree, but they don't mix well with turf.

"It's easy to overwater oaks," says Bishop. Sortemme is using an oak restoration area on a hillside as a teaching project. □

D.D.

► Towering eucalyptus trees will eventually be removed from the SBCC campus.



rigation specialist and crew leader, Nacho Garcia, encourages the crew to strive for excellence and to take pride in a good job.

Crews are divided into zones. "Some guys stay with the landscaping and planting, and others prefer to stay in routine maintenance, such as mowing, edging and weed-whacking."

Current projects include planting 650 natal plums (*carrisa grandiflora*) around parking lots.

Cross-training works

"We cross-train our crews," says Bishop, who has been with the college for six years. Cross-training enables crew members to fill in on other duties when needed. Every crew member, for example, is checked out on new equipment.

Bishop holds in-house training sessions monthly, and crew safety is held to a high standard.

The 12-man crew is half Caucasian, half Hispanic.

"Because of the safety of the students on campus, it's important that the Spanish-speaking employees have a proficiency in English."

Bishop is especially glad to have an understanding business manager, Dr. Charles Hanson, who has been helpful in getting the best and safest equipment possible.

That equipment includes Shindaiwa trimmers ("a great trimmer"); Honda commercial mowers ("quiet and reliable") and Echo PB4600 leaf blowers ("blower noise is a big issue around here").

"It's gone full-circle," says Bishop. "Dr. Hanson's bought us better equipment, and that's helped to improve morale and productivity." □

Writer Don Dale is based in Willcox, Ariz.

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Circle No. 117 on Reader Inquiry Card

How to handle the 60-HOUR WEEK

Three busy field managers rely on detailed budgets and creative scheduling when the work week gets long and hectic.

by STEVE AND SUZ TRUSTY
Athletic field managers who oversee multiple-use fields have found it's to everyone's benefit to be detailed in their scheduling and budgeting to keep a cool head in the summer heat.

Dale Getz, Athletic Facilities Manager, University of Notre Dame, Notre Dame, Ind., oversees 78 acres of athletic fields. These range from the game fields frequently featured on television to practice, intramural and "pick-up" game fields.

Five-year plan

The Notre Dame Athletic Department's annual budget is based on recommendations from the executive vice president's office in accordance with the master five-year plan. It's Getz's responsibility to develop an overall five-year plan for his areas of responsibility and an annual budget with appropriate fund allocation within those boundaries. Budgets for special projects, such as the two new soccer and lacrosse practice fields just built, must be submitted for approval along with the general budget. Once approved, they become a separate line item with those funds restricted for use on that project.

Tom Curran, grounds supervisor, City of Pompano Beach, Fla., oversees park turf maintenance, playground safety, trees, shrubbery, flower beds, irrigation (for the entire city, including the sports fields), amphitheater maintenance, small engine mechanics and "special events."

Curran submits an annual budget in March/April and receives feedback on adjustments in May. Major purchase re-

quests, such as equipment, are submitted at the same time, but separately. They must include details, such as what unit will be taken out of service when the new one is purchased.

Weekly reviews with crew

The Notre Dame program is derived from the annual upgrade of a five-year budgetary and facility auditing plan. Every sport and facility manager develops a general plan for each year and then breaks that

will use to dole out assignments. On Monday the entire staff meets to review the weekly plan. This feedback session allows us to clarify details and gives the supervisors the information they need to better allocate personnel."

Spring at Notre Dame is a busy time for fields, the toughest of the season. The schedule accommodates 30 home baseball games; 28 softball games; six to eight men's lacrosse games; six women's lacrosse



A look at some of the U.Cal at Berkely Memorial Stadium crew, from left: Mark Lucas; Howard Comre; Tony Santarelli; Miguel Vasquez; Paul Kokorowski; Tim McCystle. A great crew is the best defense against busy schedules.

into quarterly plans. Getz says his quarterly plans cover seasonal cycles.

"My assistants and I meet each Friday to develop a detailed plan for the following week based on events, weather forecasts, special projects, etc. which the supervisors

games; and one or two outdoor track meets between April 1st and May 10th.

In addition, there are the practices for all these sports; spring football practice and one football game; intramural games; and special events.

Crew 'work centers'

Bob Milano, Jr., Sports Turf Manager, University of California, Berkeley, oversees six significant event facilities: Memorial Stadium; Witter Rugby Field; Strawberry Softball Field; Evans Baseball Diamond; Hellman Tennis Complex; and the Edwards Track Stadium. He also is in charge of several practice fields, recreational fields, tennis facilities, and a synthetic turf field.

Milano has two "work centers" for crews, at Memorial Stadium and at Evans Baseball Diamond.

"I work from a master plan, then break the workload into manageable blocks," says Milano. "We hold staff meetings every two



The Milwaukee Brewers crew handles the tarp.

PHOTO COURTESY DAVID MELLOR

weeks. Staff members provide input to a prepared list, including projects that coaches have requested or that the staff sees, and we negotiate priorities."

Quarterly plan

"I develop a detailed quarterly plan following the annual budget guidelines," explains Curran. "Then I'll meet with the supervisors on Thursday or Friday of each week to plan and prioritize the following week based on activities scheduled, projects in process and anticipated weather conditions. The supervisors set the daily priorities and make specific assignments from the weekly plan."

Getz manages a full-time staff of 14 with five seasonal full-time personnel added in both the spring and fall seasons.

"I generally assign our year-round people to a specific sport and facility, with enough time spent on the other venues to give them flexibility when necessary. This focus allows them to develop 'ownership' of the field and a good working relationship with the coaches and assistant coaches.

They can respond more quickly to coaches' requests and often come up with their own suggestions to improve the field.

Plugging in 'repeaters'

"We usually have two or three 'repeaters' in our seasonal full-time personnel which helps to trim training during the rush of the season," adds Getz. "These people can be plugged into the schedule whenever need is the greatest."

Milano has a full-time staff of eight, with three part-time staff members.

"For the most effective client service, we assign our full-time staff members to specific sports and facilities. The employees take responsibility for 'their' fields and develop a sensitivity to the coaches' needs.

"Two of our part-timers are students; the other is a retired employee. Schedules are negotiable for the part-time staffers, but they

know upfront that work hours will be heaviest on evenings and weekends. It's a good match with the students' class schedules."

Curran oversees a full-time staff of 23 within the 56-person Public Works Department. From the end of May through July, this staff is boosted with college student part-timers. Flexibility is important, says Curran, when crews handle from 25 to 30 special events each year.

"Our foremen need autonomy to work this into the regular schedule; with that, comes an equal degree of accountability."

Work from the averages

Notre Dame staff members work an average of 55 to 65 hours per week during the "crunch" periods. Getz juggles the

Tips to cutting long weeks

"There will never be enough resources to accomplish everything," admits Bob Milano, Jr. of the University of California, Berkeley.

"Give your 'clients' (staffers) the opportunity to set the priorities when there is no pressing safety or field integrity issue," Milano says. "Explain that while they have x, y and z on their needs list, you only have the current resources to do two of them. Ask if they want x and y, x and z, or y and z.

"It makes tight budget and labor allocations more palatable and helps them realize that you are sensitive to their needs.

"I try to get out and see my prime clients on their turf at least once a month, usually spending a few minutes with them at the facility before or after a practice. This is a simple chat, with no paperwork, so it's not a burden to them. I check up on how things are going and ask if there are any specific problems or upcoming needs that they want to have addressed. This eliminates most problems while they are still easy to manage and helps keep the lines of communication open."

Dale Getz says Notre Dame's program of hiring seasonal, full-time personnel has become an "excellent" recruiting tool.

"It gives us the opportunity to evaluate potential full-time staff members under our actual working conditions and it gives them a chance to determine whether they like the job and working here," he says.

"Avoid the micro-management syndrome," suggests Tom Curran, grounds supervisor, City of Pompano Beach, Fla., who gives these final tips:

- ▶ hire good people;
- ▶ train them well;
- ▶ give them the tools and guidance needed to do the job;
- ▶ let them do it. □



Special events, such as concerts, add to the schedule and demand cool heads.

budget to provide for overtime pay. "I try to estimate what the overtime budget will be during the annual planning session," he says. "But with heavy play schedules, erratic weather and special needs within the various sports, it's difficult to arrive at accurate predictions."

Milano's staff averages 48 to 50 hours per week. Full-time staff members are salaried and paid once a month.

"Department policy doesn't allow for overtime pay," says Milano. "Full-time employees earn extra time off at the rate of 1½ hours for every hour over 40 worked during a week. Our part-time personnel are paid hourly, but we keep their workloads well below 40 hours per week."

Curran must authorize, justify and of course, document overtime pay.

"I build some overtime into the budget and projected schedule for projects I know will require it, such as the Easter Special Events," says Curran. "But I keep unscheduled overtime to a minimum and clear any large blocks of overtime hours with the Director of Public Works in advance."

Plan ahead, be prepared

"Planning is essential," adds Getz. "Obviously, weather plays a huge role and plans will change, so we must be flexible; but we can only accomplish our goals by knowing what needs doing and when, and staying a little ahead of the curve."

"You need to be prepared and do your homework," says Milano. "By accurately documenting how existing resources—including labor—are allocated and showing the specifics of what could be achieved with more, you at least have a chance of getting them." □

The authors are partners in Trusty & Associates, a consulting firm located in Council Bluffs, Iowa. Steve is Executive Director of the Sports Turf Managers Association

Plan, communicate and have fun!

Working a long home stand can be exhausting on the Milwaukee Brewer's ground crew. Report time can be as early as 6:30 a.m. to remove the tarp before the sun heats up the turf underneath. If the game goes to extra innings, or there is a rain delay, the crew won't clock out till about 1 a.m.

Due to inclement weather and/or set up, take down, and repair from events such as concerts, it is not unusual for my boss, Gary Vandenberg, members of the crew and myself to work between 80 to 90-plus hours in seven days.

Here's some tips to survive the schedule:

1) Not only do you need to be able to handle the long hours, you need to make sure the crew can, too. I have a supportive boss, Gary Vandenberg, and a wonderful wife and family who keep me going.

2) Try to lead by example. Be organized, and look at the hours as a challenge. Take pride in your work. Realize that you are only as good as the people around you.

3) Respect others. Be creative in getting employees motivated. We work hard to prevent burn-out, or what the crew might call "Stadium Brain."

4) Proper scheduling helps manage the budget, and allows crew members to balance and plan their lives outside of work.

5) Make daily work schedules thorough and well-planned. Each job can effect another, whether on that day, the next day, or weeks away. Prioritize each job and keep track of how much time it takes to accomplish well. Attention to detail helps prevent jobs from falling through the cracks.

6) Communicate! Encourage crew members to ask questions and/or suggest ideas. Teamwork makes all our jobs easier.

7) Equipment: match it to the task at hand. Good equipment and regular, preventive maintenance reduce downtime, which can add needless hours to a full day.

8) Watch the weather. We use the D.T.N. Weather System. It's another 'tool' that helps with scheduling, tarp work and chemical applications.

9) Consider hiring interns. Our crew is made up of veterans, newer hires and college interns. Interns want to learn, and their desire to learn influences other employees.

10) Have fun, and enjoy what you do. You will if you build a solid overall management program; it's to everyone's advantage. □

David Mellor, Milwaukee Brewers

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Equipment theft can spoil your day

by TOM SKUZA

Equipment theft and vandalism are business profit killers.

It can happen to you. Insurance industry statistics indicate that one of eight contractors will suffer a theft or vandalism claim in the next year. Theft

losses of self-propelled construction equipment is expected to exceed one billion dollars in 1997. The FBI states that one of every five contractors will suffer either theft or vandalism to their equipment in the next five years.

A theft or act of vandalism to your equipment represents

much more than the loss of your property. You lose the production that you expected from the equipment. You also spend valuable time dealing with claims adjusters. Also, you will probably be dealing with depreciation or less favorable lease terms to replace the lost piece. The profit that you expected and counted on will shrink or disappear.

Take some simple steps to decrease the likelihood of this happening to you.

▶ **Pre-project planning is essential.** This applies for jobs of all levels of cost. Review the



Tom Skuza says you can lessen your chances of being a theft victim if you protect your job site and equipment.

job with your key people. Do a pre-project inventory of all equipment necessary to complete the job. Don't take unnecessary equipment to the job. Unless you know what's really on the job site, and what comes back, how do you know when something's gone?

▶ **Secure your job site.** This includes the general public, other trades-

men and even your own employees. If possible, have employees and others park away from the job site. It's pretty easy for somebody to stick

cont. on page 19L

Playing with fire with your coverage?

by JAMES E. GUYETTE/ Contributing Editor



Schwarz: keep coverage up to date.

Eric D. Schwarz thought he had full insurance coverage on his business, Eric The Tree M.D., Franksville, WI.

He didn't. And the fire that destroyed his place of business last November revealed serious gaps in his coverage. He estimates the fire cost him \$60,000. "We're never going to get it back," he says.

There are two theories about the cause of the fire that leveled the shingle-roofed pole barn. It may have started when two 500-amp outlets overheated and ignited nearby chemical containers. The other suspect is a woodstove.

"Everything in the building was lost. The plows warped and the fiberglass tankers melted to the ground. There was nothing left," says Schwarz.

Inspect coverage carefully

Some equipment was so new that it had not been recorded and covered by insurance.

"We bought new chain saws and a pressure washer. We bought it in November and we figured, 'It's almost December, what's going to happen in just one month?'"

The fire caused Schwarz to look at his coverage more carefully, including the importance of business interruption insurance. "It would have at least given us some cash upfront," says Schwarz.

Schwarz says he's more aware of proper coverage of much-needed smaller items like tools. (Insurance experts say that small pieces of equipment or tools can be insured as "miscellaneous," with a blanket limit.)

"When we started adding things up we found out that our tool boxes were taken for granted. That \$200 tool box was worth nothing. We had to eat that cost," explains Schwarz. The same with saws, pruners, hoses and other small pieces of equipment or tools.

Schwarz admits that he had worried mostly about "the big-ticket stuff" previous to the fire. Even so, the truck that his company bought for \$15,000 six years ago now costs \$18,000 for him to replace.

Schwarz had counted on plowing and firewood deliveries to generate winter cash. He told clients of the fire. Many were understanding. Several other landscaping firms offered the use of some of their equipment. These kindnesses, plus the lack of a huge snowstorm, helped Eric The Tree M.D. survive the winter. □

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► Fire damaged everything around the landscape business of Eric, The Tree M.D., including trees and other nursery stock.

cont. from page 16L

something like a backpack blower into the trunk of their car if it's right there.

► **Make somebody responsible.** A foreman or supervisor should be accountable for tracking valuable equipment and tools at a job site. The responsible employee can also make sure that keys are secured and removed from all equipment at day's end. Return as much equipment as you can to your yard. Make sure all equipment that is left on the job site is secured or stored in a locked trailer.

If you don't have an enclosed trailer, put eye bolts on your trucks and cable the equipment to it. Some contractors weld lockable covers over the ignition switches of tractors and backhoes.

Don't leave equipment on open trailers, particularly in unfenced or unguarded areas.



What's to keep somebody from driving off with the trailer and all the equipment? Try to store your equipment in a well-lighted area.

► **Make your equipment identifiable** by some identifying mark and/or by painting it with your company's distinctive color.

► **Inform your local police department** that you will have certain equipment at a job site, and ask the police for suggestions about protecting it.

► **Tell your insurance car-**

rier whenever you buy new equipment you want insured.

► **Maintain equipment and keep accurate maintenance records** to improve your settlement by demonstrating the above-average condition of your equipment. □

—Tom Skuza spoke at the 1997 Metropolitan Detroit Landscape Association Convention about job site theft. He is with Baker-Hopp & Associates (Insurance), Harper Woods, MI.

Prevention tips from school of 'hard knocks'

The fire that destroyed his landscape headquarters was a costly education, says Eric D. Schwarz. To help others from going through what he did, Schwarz offers these suggestions:

- locate chemical storage away from maintenance structure;
- keep the plant holding area away from any buildings;
- consider business interruption coverage;
- conduct annual facility fire inspections;
- periodically review policies to make sure all valuable equipment is recorded and covered;
- keep up-to-date records of all equipment and inventory, including photographic or videotape records of vehicles, equipment and other inventory.
- keep a backup computer disc copy, off site, of all company employee lists and business records. □

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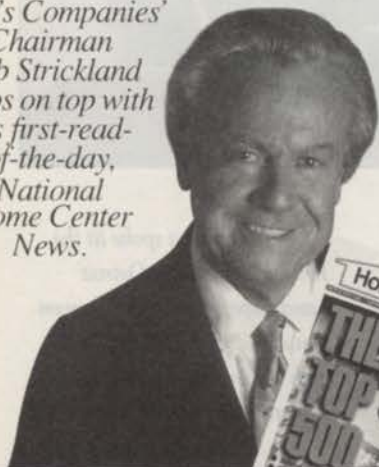


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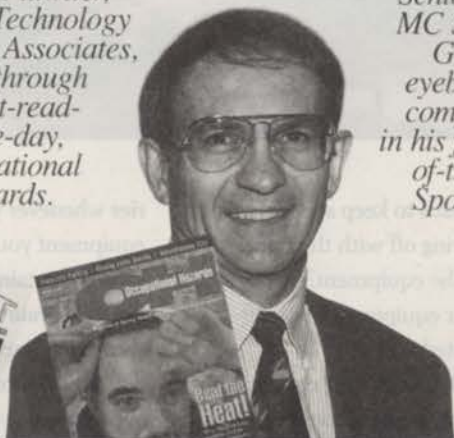
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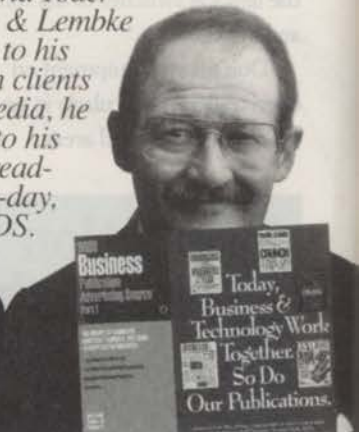
*Director
Irwin Winkler gets
informed with
his first-read-
of-the-day,
The
Hollywood
Reporter.*



*For well-groomed
Judy Guido and Ed Laflamme,
their first-read-of-the-day is
Landscape
Management.*



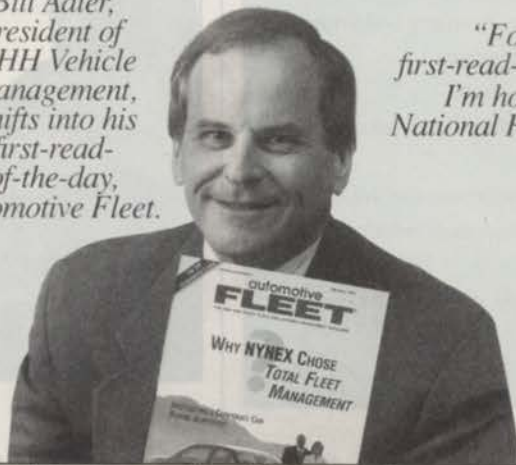
*Before David Yoder
of Anderson & Lembke
speaks to his
high tech clients
about media, he
turns to his
first-read-
of-the-day,
SRDS.*



*Talkative
Montel Williams
silently peruses
his first-read-
of-the-day,
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Automotive Fleet.*



*"For my
first-read-of-the-day,
I'm hooked on
National Fisherman."*



Volunteers welcome!

Helpful parents and others can help with fund raising and field maintenance, and have fun doing it.

by DAVID MINNER
Players, parents, boosters and other supporters of the athletic program can provide substantial support for athletic

field management. Usually they just have to be asked.

Let them choose between fund raising and maintenance on the field. Fund raising efforts are usually more effective

4-way cooperation guides sports field traffic

Managing a sports facility requires communication between the facility administrator, coach, band director, and grounds manager.

Administrators in charge of college budgets should keep in mind that proper traffic control on an athletic field costs nothing in terms of dollars, and offers the most effective means of reducing dangerously worn areas on game and practice fields.

Understanding your role as a user of the field is a first step in communication.

Coaches must take an active interest in scheduling practice activities and preventing excessive turf wear. The coach and the grounds manager can work together to develop improved grass areas specifically for drills that are conducted off the game and practice fields.

Band directors should have practice field markers painted on another grass area or in a parking lot. Areas should be situated so that practice can be viewed from above, as if you were in the bleachers.

Band practice on the game field should be limited to once per week and only when the soil is dry enough to resist compaction in marching paths. No activity (band, football, or field maintenance) should be conducted on the field while there is frost on the grass.

Grounds managers should realize that they are caring for a multi-use facility rather than just a football field. Every effort should be made to accommodate all groups that have activities on the field. Each group should take responsibility for the condition of the field. Each group can be viewed as a potential resource for funding field maintenance expenses. Extra use requires additional labor, equipment, and resources. Contributions should be requested from the band and athletic booster club.

D.D.

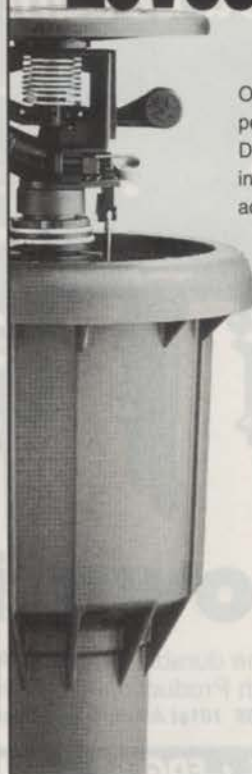
when they are working towards purchasing a tangible item, such as an irrigation system, core aerator or mower. Items like sand topdressing, seed, and fertilizer are less attractive as fund raising projects.

Players, and sometimes parents, are usually receptive to working directly on the field. Provide ownership in the field by allowing each player to work at the position they play. Immediately after or between games players can make necessary improvements in a matter of five to 15 minutes. Pitchers and catchers can easily rework the mound and home plate by

adding and tamping clay. First and third can rake, level and repair the skin area around their respective bases. Second and shortstop can broom soil from the grass to prevent lips. Outfields can spread a mixture of seed/sand/soil into divots to fill in thin areas. Fields that are routinely managed with players seldom need severe renovation. I've actually found that players enjoy working on the field and parents take pride in seeing their kids assume the extra responsibility. **LM**

David D. Minner is associate professor of horticulture at Iowa State University

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Circle 134

Need a bank loan?



Here are some time-tested strategies to convince your local banker that your green industry company deserves a chance to grow even more.

by ROBERT A. WOODS

Your company is growing, entering new markets, developing new services.

You need money. Cash is tight. Where do you go to find money to grow?

While there are numerous financing choices for small and medium-size, owner-managed businesses, most company owners go to see a local bank first.

There are specific steps you can take to increase your chances in dealing with banks

and other lenders. But you have to get your banker excited about your company. Only then can the banker sell it to the loan committee.

Speak banker's language

Bankers are always on the lookout for solid companies to loan money to. That's their job.

But, most loan proposals that come across a bankers' desks appear to shout to the banker:

- ▶ "Reject me for lack of documented financial information."
- ▶ "Reject me for lack of a specific plan to pay you back."
- ▶ "Reject me for not demonstrating how the bank's money

can actually help my business earn additional profit."

Numbers talk

When you put your financial information together what kind of story did it tell? You or your accountant probably rounded up the company's past few years annual financial statements along with possibly an interim statement and submitted these to the bank. Unless you are in an exceptionally strong financial position (and if you are, you would not be applying for a loan) the information you gave the bank is probably not enough to tip the scales in your favor.

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Circle 154

You are judged solely on your financial performance as you have given it to the bank.

You can legitimately make the story you tell the bank substantially stronger by doing two things with the financials:

- ▶ "Recast" your previous years' earnings.
- ▶ Include *pro formas* in your loan submittal package.

Recast earnings are simply redoing your financial statements to show what your business could have earned, its maximum earning power, in any given year. As a private business you try to minimize taxes. Taxes are based on income so it's only natural that you tried to keep your income reasonably low. But low income is not what your banker wants to see.

Show true profits

Adjust your income statement to show what your profit could have been if the company hadn't paid for your car and insurance. Adjust for everything that was not an absolutely necessary business expense. Look for expenses that could be eliminated, even though you might not choose to eliminate them, and still allow you to successfully run your company.

Look carefully at your salary and the salary of any relatives on your payroll. As the owner you can take as much cash as you want out of the company. But if what you are taking in salary and bonuses exceeds normal standards for your industry your company is showing less profit than it is actually making.

Profits=smart

The first thing bankers look at is the annual profit shown on

your financial statements. This is the benchmark of your success in their mind. Nice profits equals smart business person. Low profits equals dumb business person. Get your profit as high as you can before you meet with the bank.

For example, you are taking home a salary of \$125,000 when \$75,000 is more in line with what other owners of similar size companies in your industry are making. More power to you, but if you add this \$50,000 of "excess" compensation back into your profits your bottom line is going to look a whole lot better.

If all this sounds suspiciously like keeping two sets of books or like a lot of work, relax. It's perfectly legal since all your income is being reported. You are just showing what happens if you move income and expenses around on paper. As for the work involved, all that is usually required is a few adjustments on the expense side of the ledger.

After you have recast your earnings to put your historical financials in the best possible light it's time to look to the future. What are you giving your banker that shows him or her what is going to happen to the company's finances over the next three to five years? What are you giving the bank to show how you are going to use their money other than vague references to "needing working capital"?

Bankers want to know specifically what you are going to do with additional funds. You have to show the bank exactly how you are going to use its money to make more.

Pro forma a look ahead

A *pro forma* projects your financial statements out over the next three to five years, depending on the term of the loan you are requesting. Lenders want to see a documented, believable future that puts their money to good use and shows them how they are going to be paid back. Show the banker how you are going to use the money to increase profits by opening up new markets or by offering expanded products or service.

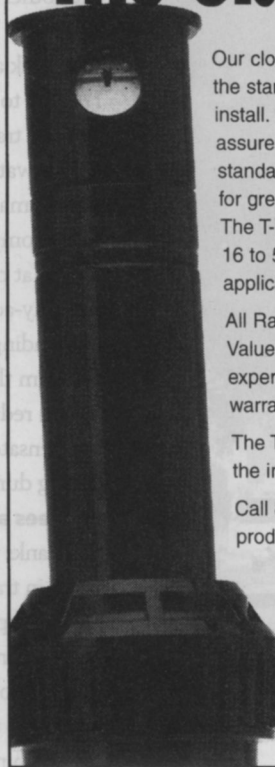
Watch out for projections that are wildly optimistic or differ markedly from industry averages. Bankers have a copy of *Annual Statement Studies* published by Robert Morris Associates on their desks. It de-

tails the operating ratios of companies in every industry you can imagine. If other companies average 35 points gross margin you won't impress the bank by telling it you plan to achieve 60 points.

Pro formas use income, balance and cash flow statements to demonstrate your future financial performance. Tie all these numbers together to build a future that shows the bank that you are in command of your business.

—Robert A. Woods, chairman of the Woods Capital Corporation, Park City, Utah, helps owners of small and medium-size businesses obtain financing for their companies. He can be reached at (800) 892-7707.

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BIG TREES easy to transport

by JASON COX

Until recently, real estate developers relied on small, easily managed trees for landscapes. These trees often took decades to assume the finished look the developer had in mind at the beginning of the project.

Thanks to improved technology and equipment, mature trees, whether on-site or miles away, can be used in almost any setting to enhance a landscape.

Full mature trees give depth and scale to a landscape, and increase environmental

"usability." Their shade cools a hot summer sun. They offer privacy, increase property value, complement architecture and provide a habitat for wildlife. With grown trees, there's no second-guessing their ultimate shape and height.

The right contractor

Trees are perishable, so develop procedures to increase their survival chances after the move.

► Make sure the contractor has a **proven track record**. Companies should have extensive experience in moving trees of the size and specie that you want.

► Does the contractor **know the area**? Trees imported from locations near the project site typically adapt faster to the micro-environment and are likely to encounter similar soil types. They also preserve the ecological integrity of a project and blend well with other features of the landscape.

► Ask about **follow-up care**. The key to ensuring the survival of recently transplanted trees is proper watering, which is often the site manager's responsibility. Good companies offer extra services that can increase the survival of newly-acquired trees. Mulching and sanding prevent evaporative loss from the top of the rootball. Crown reduction pruning can compensate for any root loss occurring during the transplant.

Big trees a specialty

Thanks to dramatic improvements in transplanting technology, a few companies offer giant tree relocation services. With equipment designed to accommodate trees ranging up to 36-inches in caliper and weighing more than 400,000

Three methods

New spade for massive trees

Environmental Design/Instant Shade, a Houston-based contractor, recently developed 14-foot and 16-foot tree spades capable of transporting rootballs measuring up to 30 cubic yards. The most affordable way to transplant giant trees is also the most versatile. With this technique, trees can be relocated from sites many miles away.

Roundballing

For on-site transplants, roundballing is a viable option. With this method, the rootball is hand-dug and wrapped in burlap and wire. The technique permits the transplant of trees larger than those that would be available with traditional and upgraded spades. Trees are ultimately crane-set into their final setting.

Boxing

Like roundballing, boxed trees are hand-dug and crane set, but instead of burlap and wire, steel plates are fastened to the rootball for overland transport. This is the method of choice for distant project sites that need giant trees.

J.C.



With the 'boxing' method, steel plates are fastened to the rootball for overland transport.

pounds, a developer is limited only by budget and imagination. In terms of economics, larger trees are a more cost-efficient amenity than other commonly-used alternatives, including hardscapes and waterscapes.

Typically, it's less expensive to relocate trees than it is to destroy what's already in place and replant new trees. Giant trees, however, need extra consideration when being moved. □

The author is with Environmental Design, located in Houston.

PGMS lists show topics

The Professional Grounds Management Society has finalized its list of seminar topics to be presented at the 1997 Green Industry Expo.

The list of 18 subjects covers a variety of landscape management related duties, from athletic field management, to design, plant care and fungicides for disease control in turfgrass.

A presentation on "Team Building" will cover the best ways to encourage crews to work together for a common goal.

Dr. Alex Shigo will cover tree care and general plant care. Business consultant Dr. Larry Helms will cover "Running a Business."

Turf restrictions amended in Nevada

The Nevada Landscape Association has reached a compromise on landscape restrictions proposed by the state's regional water commission.

The original Water Management Plan had called for:

- ▶ no turf on new commercial properties;
- ▶ no turfgrass on slopes greater than 10 degrees;
- ▶ 25 percent maximum amount of turf allowed in multi-tenant developments.

Michael King, NLA president, said he consulted with Dr. James Beard, professor emeritus, Texas A&M; Dr. Dale DeVitt, water, plant and soils specialist at UNR; and Debbie Schoenberg, chairman of Sierra Nevada Landscape Architects; and more than a dozen nursery/landscape companies, for help in revising the restrictions.

King would like to see the state adopt a performance-based water use program based on evapotranspiration (ET) rates.

"This has been a proven method in other cities where I have collected information, and it is a win-win situation in those cities; for the water purveyor, the landscape industry and conservation," said King, who added that a water conservation program based on performance would secure the water needed for Nevada landscapes. □

Other topics in the PGMS list of presentations include:

- ▶ Being a Success in Landscape Business
- ▶ Landscape Design Imaging
- ▶ Sports fields
- ▶ Planting Depths for Woody Ornamentals.

"We have purposely planned education sessions at the Conference to meet the stated needs of the full range of grounds professionals," says PGMS President Steve Wharton.

The Green Industry Expo is to be held Nov. 15-18, at the Charlotte, N.C. Convention Center. The GIE is a joint show presented by PGMS, the Professional Lawn Care Association of America and the Associated Landscape Contractors of America.

For more information on the PGMS program, call (410) 584-9754. □

GIE moves equipment demo to day 1

The Outdoor Equipment Demonstration usually held as the wrap-up event of the Green Industry Expo is going to be the lead event of the event in 1997.

The try-before-you-buy gathering will be held Sunday, Nov. 16, from 1 to 5 p.m. at Renaissance Park in Charlotte, N.C.

The GIE show runs Monday and Tuesday, Nov. 17-18 at the Charlotte Convention Center.

"The early start for the Outdoor Demo should attract more participants," says Trade Show Manager, Eleanor Ellison, who expects attendance at the outdoor event to triple. □

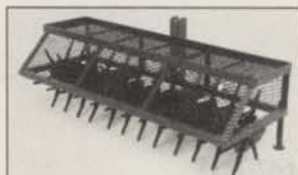
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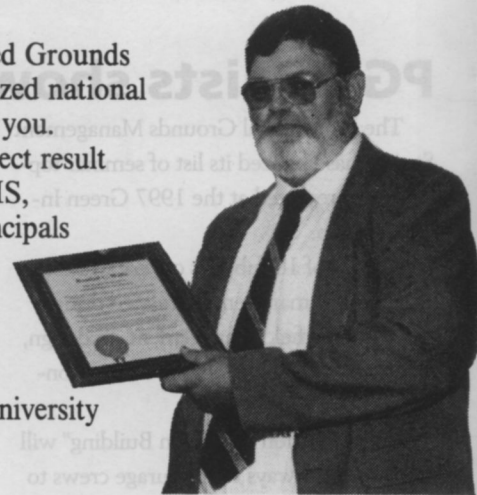
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 - membership directory
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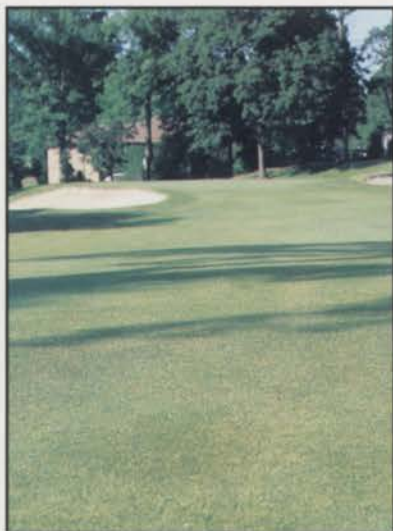
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Week 2



Week 3



Week 7



Week 8



Week 9

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Week 4



Week 5



Week 6



Week 10



Week 11



Week 12

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that it eliminates all need for rinsing to make disposal easier, too. Plus the superior sticking and staying power of our Super Weather Stik formulation for exceptional broad-spectrum control of some 70 diseases that attack turf, ornamentals, and trees. And the fact that there's never been a documented case

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Since being named supervisor of the Duke University Golf Club engineering and mechanical repair department, I have developed a streamlined and affordable system for our golf maintenance operation.

We have *three mechanics* in the shop, because a great preventive maintenance schedule insures you will have equipment that runs properly from top to bottom.

Our system is recovering the cost of three mechanics many times over, and has created great results on the course.

Most golf courses have 50 to 100 machines, and employ one or two mechanics. They also try to use untrained workers in the shop to help the lead mechanic.

There is no way one mechanic at an 18-hole golf course with a full maintenance schedule can perform preventive programs; make emergency repairs; maintain repair logs; purchase products; keep the books; and clean the work area, all in a five-day work week. Some part of the overall program will suffer or simply won't get done.

When mechanics are over-worked, they're always playing 'catch-up.' Morale is low as preventive maintenance is increased, and the grounds crew doesn't like the machines they run.

The Duke University Golf Club suffered from what I call "The Alamo Syndrome." The mechanics were working against impossible odds.

Here's how to break out of the syndrome. We did it in one year:

- 1) Start with a clear, well-defined mission statement.
- 2) Establish your work philosophy and plan a work schedule that includes an extra, trained mechanic in the shop. As part of the schedule:
 - ▶ Design and follow an effective preventive maintenance schedule.
 - ▶ Ask your tractor rep for help on PM sheets.

Why your shop needs three mechanics



Norman Weaver

NORMAN WEAVER
Guest columnist

[GOLF]

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Texas Star leads rec center plan

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Nutrients, irrigation affect disease

PAGE 126 ▶

Indian River club a 'natural' success

PAGE 166 ▶

Super's lifetime at Ledgemont

▶ Give each piece a number. Include blowers, cutting tools, pressure washers, everything.

▶ Set up your files based on the numbering system, and log the work daily to include time and cost of parts.

3) Present this plan to your general manager, greens committee, or whomever else holds the purse strings.

As a result of our program, morale is high and we're never behind in our work. Our records are clear and concise for fast reference, and the equipment looks and performs better for more years. Superintendent Eric Shields no longer has to wonder whether or not equipment will be ready on time, and I'm looking forward to saving more than \$100,000 over the next three years.

That's what proper equipment maintenance is all about! **LM**

Guest columnist Norman Weaver is supervisor of golf course engineering and mechanical repair at the Duke University Golf Course, Durham, N.C.

What's your opinion on the "state of the shop" at golf courses today? Have any solutions or suggestions of your own? Write to LM at 7500 Old Oak Blvd. Cleveland, Ohio 44130. Phone us at (800)225-4569 x 709; fax us at (216) 891-2675; or E-mail to: tmciver@advanstar.com

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Circle No. 105 on Reader Inquiry Card



Texas Star course leads REC CENTER PLAN

Just 10 minutes from DFW airport, the 200-acre Texas Star is one part of a blueprint that is expected to give the City of Euless a boost.

By TERRY MCIVER / Editor-in-Chief

The Texas Star Golf Course debuts this month in Euless, Texas, as part of a planned recreational complex that will feature the 200-acre golf property and 90 acres of baseball, soccer and softball playing fields.

Texas Star was designed by Keith Foster, once a student of Art Hills, now in his sixth year with his own design company, headquartered in St. Louis.

The course is owned and operated by the City of Euless, a suburb of Dallas. "This project is huge relative to the game of golf and the impact it will have on the

city," explains Foster.

"They're also building a convention center that will benefit the community and the region. It's quite enormous when you consider all the potential," says Foster.

"The city has always wanted a great golf course that will be an asset."

Foster also designed the well-known Quarry Golf Club in San Antonio, which, he says has become the leading public course in the state.

Texas Star is 200 acres of golf and golf only, with not a home development in sight. The course has been cut into a site reminiscent of the Texas 'hill country,' and features dramatic changes in elevation and rock outcroppings.

"Our goal was to create a golf course that looks like it's always been part of the land, and capitalizes on what the site has to offer," says Foster.

Jon Snider, superintendent at Texas Star, is a Texas A&M graduate, whose previous assignment was at The Cliffs Country Club near Graford, Texas.

"Jon was the perfect fit," compliments Foster. "He has been exceptional to work with throughout the entire process."

The number 13 at Texas Star displays the turf varieties used. Greens are Pennncross G-2; aprons are Tifway 419 Bermudagrass; taller grasses beyond the apron combine little bluestem, weeping lovegrass, switchgrass and western wheatgrass.

Texas Star at a glance

Designer: Keith Foster

Size: 200 acres; 7000+ yards, par 71.

Superintendent: Jon Snider


Assisted by: Jesse Hunt

Mechanic: Walter Braswell

Irrigation expert: David Quiroga

Turf: Tifway 419 bermuda; Pennncross G-2 bentgrass; tall fescues; about 30 acres are planted in native grasses: little bluestem; switchgrass; western wheatgrass; weeping lovegrass

Snider plans to employ a peak-season staff of 20, and 12-14 year-round workers, "depending on whether or not we overseed. At this point in time, we're not plan-



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'Our goal is to create a golf course that looks like it's always been part of the land, and capitalizes on what the site has to offer.'—Keith Foster, architect

ning on overseeding our fairways. That's a year ahead, when we reevaluate and change things," says Snider.

"If this year is any indication of the coming growing season, we may not see much dormancy. We were still mowing at Thanksgiving 1996, and we started to mow again in mid-March. We never went fully dormant. We were only down about three months."

New bentgrass, natives

Tees and fairways are sprigged with Tifway 419 bermudagrass. Greens are seeded with the new Penn G-2 variety, known for its improved density and close mowing tolerance.

"There are accent grasses used in rough areas, kept at 5-6 inches in height, and in some shaded areas we're going in with tall fescue," Snider explains.

Mowing equipment at Texas Star includes Toro walk-behind greens mowers and Jacobsen 3810 fairway mowers.

"As a city, all of our equipment purchases went out on bid. So we have a variety of equipment," explains Snider.

Equipment maintenance will be up-to-date, but for now, the office trailer/pump house serves as maintenance headquarters.

"Fortunately, we have a really nice pump house," laughs Snider.

Computerized maintenance records

"We're trying to do as much preventive maintenance as possible in less than ideal conditions," says Snider. "We plan to go to a computerized system that records hours of use for each machine, and transmits the information to the computer screen, such as recommended intervals for oil changes and all preventive maintenance.

"It's used by the city's fleet service center. They take care of the rest of the equipment used by the city departments."

The irrigation system combines a Toro OSMAC irrigation system with Flowtronex variable-speed pumps.

The greens are planted on a sandy loam/peat mix that drains just as it should.

Bunkers are the same calcareous sand, minus the peat, from the Brazos River.



Jon Snider, left, says he and his Hispanic work team help each other get over the language barrier.

Snider anticipates Texas Star will host 40,000 rounds per year, "and we're going to limit it to 40,000," he insists.

"If we have to start turning away people, that's when we'll go up in price."

A round of weekday golf at Texas Star, with a cart, is priced at \$47. Prime time and holiday play costs \$59.

Weed control in flood plain

"We've gone out with an application of Barricade already this year for the summer annual weeds," says Snider, "and will probably go back with Pendimethalin in the fall, with window applications of Barricade.

Barricade is the only product labeled for rescuegrass, which we have in several areas.

"We are in a flood plain, and Hurricane Creek, which runs through the property, comes out of its banks. In those areas we've had lots of weed seed deposited, and had a heavy infestation of the rescuegrass there. Along with some other areas, we're going to window treat with the Barricade and then broadcast the Pendimethalin everywhere else."

Organic products are also on Snider's list of treatment methods.

"We've used quite a bit of Houactinite, a processed sewer sludge. We've gone out in spring with 750 pounds per acre; we went into the fall last year with a good, heavy dose. The course greened up quicker and stayed green longer.

"I can't totally attribute all the green up to the Houactinite, because we're putting a pound of nitrogen on these new sprigs every week, trying to push them up to the end of October. We were fortunate through winter with the freezes and what have you, that we didn't lose any grass."

The present 12-man workforce includes nine Hispanic workers, which provides a certain communication challenge.

To jump the language barrier, Snider is using a Spanish language CD ROM to teach himself Spanish, and relying on the help of the Hispanic workers.

"They teach us, and we teach them," he says.

"Our irrigation technician is fluent in Spanish. He carries a radio with him at all times. If we do get caught in a communication problem, we call him and he translates on the spot." □

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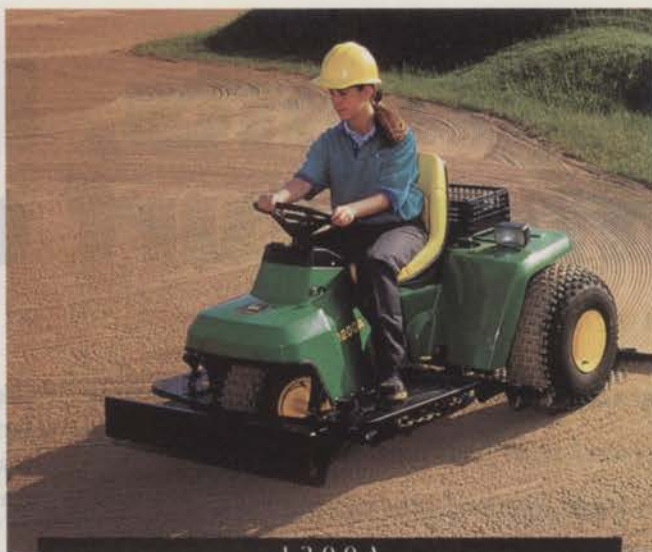
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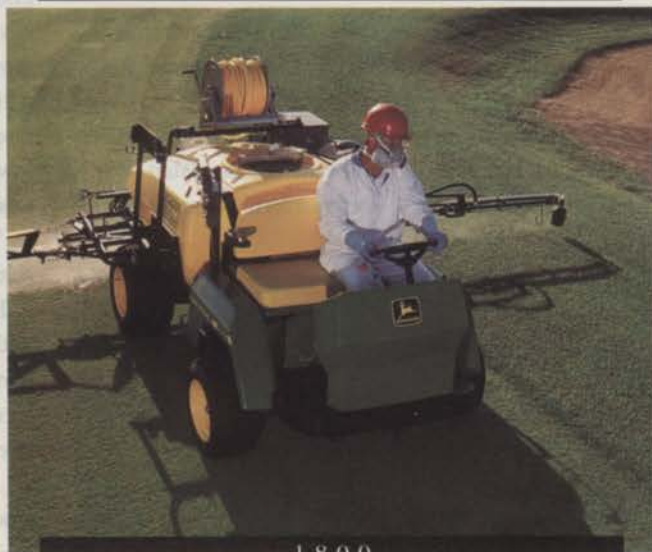
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NOTHING RUNS LIKE A DEERE®

Nutrients, irrigation affect turf disease

by BRUCE AUGUSTIN, Ph.D.

Turfgrass managers control the variables associated with fertilization—the N source, the amount applied and timing.

Quality turf needs fertilizer. Nitrogen is the most important of the 17 elements essential for turf. It provides for leaf growth and green

color. Nitrogen requirements vary by turfgrass species and cultivar.

Turfgrass managers can control variables associated with turfgrass fertilization—the ni-

trogen source, quick release versus slow release, pounds of N applied per year, amount applied per application.

The amount of applied N effects turf growth and disease development. Limited turf growth occurs under low nitrogen fertility. Only a few turf diseases will develop because of low, inadequate nitrogen levels.

Lush growth a target

The majority of diseases result from too much N causing lush leaf growth and plants with reduced disease tolerance, particularly when the turf may be under environmental stresses.

A single application of large amounts of N can also pose problems. It creates lush leaves that are predisposed to pest attack. Infections occur as the growth effect from nitrogen begins to wear off and the rate of leaf elongation slows down. To

avoid this, either apply smaller amounts of quick-release or use slow-release nitrogen fertilizers.

In general, highly maintained turf like golf greens with a low height of cut, require more nitrogen than a typical home lawn. Nitrogen also has to be applied more frequently in smaller amounts per application on a golf green than on a home lawn. Different turfgrass species and the ability of the underlying soil to hold nutrients contribute to the rate and frequency of fertilization. Golf greens are fertilized at $\frac{1}{4}$ to $\frac{1}{2}$ pound of nitrogen every three to four weeks while a home lawn gets one pound of nitrogen every two to three months.

Potassium a help

Potassium is one of the few other nutrients directly identified with disease development in turf. Adequate levels of potassium in the soil make turf more tolerant to stress and pests. High potassium levels may not eliminate turf diseases but they reduce disease severity. Inadequate potassium nutrition makes turf more susceptible to diseases like spring dead spot of bermudagrass.

A casual relationship has been noted with phosphorus with turf diseases. Turf grown on phosphorus deficient soils has shown an increased susceptibility to pythium and root rot



Fairy ring disease can appear in all turfgrasses.

DISEASES THAT BECOME SEVERE UNDER LOW NITROGEN LEVELS

anthracnose
 cercospora leaf spot
 dollar spot
 red thread
 rust
 take-all patch.

DISEASES THAT BECOME SEVERE UNDER HIGH NITROGEN LEVELS

brown patch
 copper spot
 curvularia blight
 fusarium patch
 gray leaf mold
 gray snow mold
 leaf spot, melting out
 necrotic ring spot
 pink snow mold
 powdery mildew
 pythium blight
 stripe smut
 summer patch
 yellow turf
 yellow patch



Brown patch in St. Augustinegrass. The disease likes high N content.

diseases. These observations have been made primarily on sand/soil-based golf greens.

The role of pH

Other soil factors have indirect influences on turf disease development. Take-all patch, summer patch, and pink snow mold are more severe under pH conditions. Adjusting the soil pH minimizes disease severity. Ammonium sulfate as an acidifying nitrogen fertilizer source to lower soil pH reduces the severity of these diseases.

Turf irrigation

Turf requires about 43 inches of water per growing season. The eastern United States and the Pacific Northwest usually have adequate annual rainfall. Even so, rainfall is unpredictable and irrigation is sometimes a necessity to keep turf green. Too little moisture causes turfgrass to wilt and, eventually, go dormant.

Too much moisture can lead to disease. Irrigation rates

and frequency depend on the weather, turf species, soil and turf management level. For instance, periodic wetting and drying of turf provides conditions favoring some turf diseases, such as *Helminthosporium* leaf spot complex in early summer.

Nighttime irrigation has been thought to increase disease. Irrigate at 4 a.m. to 6 a.m., when wind is at a minimum, for greatest efficiency. Sunlight will then dry the turf.

Dry spots

Localized dry spots are often misdiagnosed as disease or insect problems. The turf turns brown and dies in patches when the soil dries out beyond the wilting point.

Non-ionic surfactants or wetting agents give short relief.

Weather effects

Regardless of management practices, the weather ultimately dictates disease severity. Most turfgrass pathogens are

SUGGESTED NITROGEN FERTILIZER SCHEDULES

Turfgrass species	Lbs. N/1,000 sq. ft. per year	Number of fertilizer applications/year
Bahiagrass	2-3	2-4
Bentgrass		
Greens	4-8	6-10
Fairways	1-4	2-5
Bermudagrass		
Greens	8-12	8-14
Fairways	2-5	3-6
Athletic Fields	2-5	3-6
Home Lawns	2-4	3-6
Centipedegrass	2-3	2-3
Fine Fescues	2-4	2-3
Kentucky Bluegrass		
Fairways	3-5	4-6
Home Lawns	2-4	2-5
Perennial Ryegrass		
Fairways	3-5	4-6
Home Lawns	3-5	3-5
Overseeded Greens	4-6	5-8
St. Augustinegrass	4-6	4-8
Tall Fescue	2-5	3-4
Zoysiagrass	2-4	3-5

always present in the thatch or soil. For example, the *Rhizoctonia* organism is routinely found in turf samples submitted for diagnosis. Turfgrass pathogens cause disease symptoms under optimum plant susceptibility, temperature and moisture conditions.

Disease control

There are two basic approaches to the application of fungicides—preventive or curative. Effectiveness depends on the disease organism and the mode of action of a given fungicide.

Curative fungicides take care of easy-to-control diseases such as brown patch that cause primarily cosmetic damage.

Difficult-to-control diseases such as summer patch or *Pythium* are typically treated on a preventive program. □

Bruce Augustin is product service lead for Zeneca Professional Products.

A 'natural' success

Superintendent Robert K. Ellis works with Indian River Club golf and residential community to preserve and enhance native coastal Florida environment.

By RON HALL/ Managing Editor

There's a hole at Indian River Club golf course known as "Temptation." It's named that for good reason. Even a high handicapper might be tempted to think, "hey, let's go for it." The ribbon of turf-grass winding to the green is inviting. Too inviting, never mind the water and bunkers.

All 18 holes at Indian River Club have names appropriate to their personalities. "Patience" is an undulating Par 5; and "Scrub Jay", a challenging combination of golf hole and wildlife preserve where you'll find Florida scrub jays, now legally protected as a Threatened Species by the U.S. Fish and Wildlife Service.

Golf Course Superintendent Robert K. Ellis says the descriptive names are just a tiny part of the uniqueness of Indian River Club.

More significant, says Ellis, is the marriage of this relatively new golf and residential community with

its native Florida environment. He describes this relationship (and his part in it) as a continuing experiment in stewardship.

"It's a learning experience," explains Ellis. "Everything we do here is."

The 300-acre Club gets its name because it's located on the southern boundary of Indian River County just outside Vero Beach. Indian River County is best known for its citrus, but golf has become pretty important here too. The county of 90,000 people boasts 17 golf courses, 11 of which are private. Construction on the Indian River Club course began January 1994, and it was ready for play in February 1995.

The developer of Indian River Club is Jeff Reynolds, a former cable television company owner. He and several limited partners initiated the development convinced that preserving and enhancing the natural environment would improve the quality of life for home owners and club members. This commitment—at least to the extent they've dedicated themselves—sets their club apart from other similar communities, they believe.

In 1996 Audubon International honored Indian River Club with its highest recognition, designating it

This wooden cart bridge forms a design element on this hole. Note the grass stabilizing the bank of the waterway.



as an Audubon Signature Sanctuary. It was only the third new golf and residential community so honored. Even so, Robert K. Ellis, golf course superintendent, sees the Club as a work in progress.

Always in progress.

The design works

Ellis joined the Club early in the golf course's development. He was delighted at the opportunity, he says, particularly as he learned more of the developer's commitment to "doing the right thing." He was selected, he believes, in part, because of his experience with three other golf course construction projects. Ellis is a graduate of Lake City Community College (Golf Course Operations) in northern Florida, and a native of Lakeland, Fla.

He says he sought suggestions from fellow Florida superintendent Tim Hiers. Hiers' experiences at Colliers Reserve Country Club in Naples, Fla., has inspired other superintendents to become involved with the Audubon program, says Ellis.

The Indian River Club superintendent also praised golf course architect Ron Garl, Lakeland, Fla., for the care he took in blending his design into the property's unique characteristics.

"The architect and I were friends before we came here," says Ellis.

"I thought it was wonderful that they got a Florida architect that knows native Florida."

Garl adopted a cooperative approach laying out the course. In a sense, the project called for that. Four distinct landscapes—a mature pine forest, an oak hammock, a Carolina-style savannah, and an ancient elevated coastal sand dune—comprise the terrain on which the Indian River Club is built.

So conscientiously did Garl, with input from Ellis, shape the holes that, golfers can still easily identify and experience all four landscapes, with much of their native charm. Equally important, from Ellis's viewpoint, the course is manageable with a well-thought-out IPM program.

Wise use of turf

Just 85 acres of turfgrass cover the Indian River Club course which also contains more than 50 acres of lakes, marshes and wetlands (both natural and man-made).

The tees, fairways and roughs are Tifway 419; the greens and collars are Tifdwarf bermudagrass. Both are overseeded during winter. Emerald zoysiagrass is used on several shaded tee complexes, while St. Augustine is the preferred grass for homeowner lawns.

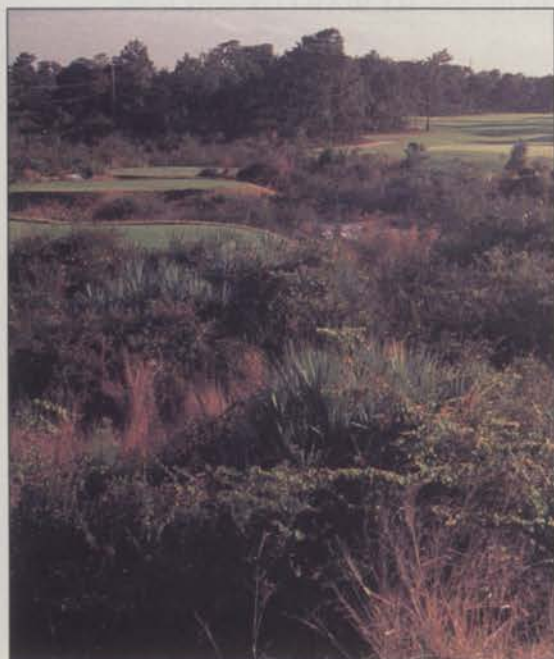
Ellis says native grasses such as sand cordgrass, seashore dropseed, fakahatchee grass and muhly grass minimize maintenance on hard-to-maintain areas such as steep lake banks and tee slopes, and out-of-play areas not needing supplement irrigation.

The superintendent manages a golf course maintenance staff of 13, in addition to Assistant Superintendent Jeff Rennert, two mechanics and an office assistant. The Club's landscape supervisor is Barry Wade. He manages a six-person staff.

Hole 5, looking back to 6 is built along an ancient coastal dune, and is a habitat for the threatened Florida scrub jay.



Superintendent Robert Ellis, above, collaborated with Architect Ron Garl in preserving a uniquely Florida environment.



As beautiful as the golf course is, it's just part of the total Indian River Club experience. All of the community's homes border the golf course, and many are tucked into locations screened from play by native vegetation. The mature plant material also provides them with a surprising amount of privacy.

"We're trying to get the homeowners involved with our programs by minimizing the amount of turf. By using the natural flora we're able to keep these areas native with low maintenance," says Ellis. "It saves a lot of costs, and look what it does for conservation efforts."

Indeed, much of the vegetation surrounding some of the holes on the golf course came from areas cleared for construction. Crews relocated about 700 native sabal palms, 100 small oaks, 12 specimen oaks (some upwards of 75 feet tall), and numerous amounts of palmetto stands and other various native plantings.

While this work continues, it's not always successful, admits Ellis. Generally, about ⅓ of the relocated native material survives. "That's pretty good. It's certainly better than stripping and clearing sawy this good material."

At Indian River Club, they don't discard what's unique about the coastal Florida environment. They find a way to preserve and enjoy it. □

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Super builds, rebuilds in lifetime on course

When Tony Caranci arrived at Ledgemont 40 years ago, he was in it for the long haul. He's made a history of improvements to the Seekonk, Massachusetts course.

Anthony Caranci, Jr. was working on the third green at Ledgemont Country Club when he heard about the death of President Kennedy.

In fact, most of Caranci's most vivid life memories are tied to the golf course.

And it's a considerable life: 40 years at one golf course, located in Seekonk, Mass.

During that time, Caranci has rebuilt most of the greens and tees at least once, recontoured the fairways, installed all drainage systems, built cart paths and planted nearly every tree on the course.

"I guess you could say this golf course has been my second home," says Caranci.

"I can think of a lot worse places to spend your life. I'm proud to say that over the years, we've made this course into a country club."

Caranci freely shares the credit for the golf course's continued improvement and development with his assistant of 25 years, Bill Sherman.

Swampy conditions

"I started rebuilding the greens right after I came here in 1956," recalls Caranci. "The course was very swampy and the greens were flat and pancake-like. It was not a test of golf."

"I started on the second green, enlarging it and putting in rolls, and we put in one or two new greens each season for many years."

With little money to work with, Caranci raised his Penncross sod himself, sprigged it in May and pushed for growth all summer. He also selected most of the trees from the woods, root-pruned them and planted them on the course the following year. Caranci



Caranci built a career at Ledgemont CC.

tried to make each hole different, beginning by tipping the second green "like a pie plate," elongating the tee on the first hole to create space and making the fourth hole a water hole for more golf drama.

Clay soil a challenge

"We have the world's worst soil here," asserts Caranci. "It's heavy clay, and rocky. We had to get rid of \$60,000 worth of rock, which we used to build a

practice tee. We also put drainage in on every hole, and continue to add it each year. At first, we just put cart paths on the extra wet holes, Numbers 2, 11 and 13. But now, I have two left to finish and then the cart paths will be continuous."

Wet conditions, combined with the heavy clay soils on the Ledgemont course lead to disease problems each year, as heat and humidity rise. Caranci knows he will find brown patch and rhizoctonia each

cont. on page 20G

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GOLF COURSE PHOTO BY JOHN R. JOHNSON



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cont. from page 16G

summer on most of the course. He uses ProStar fungicide to control the diseases, as suggested by Dr. Noel Jackson of the University of Rhode Island.

Caranci himself has taught turf management seminars for the University of Rhode Island and University of Massachusetts.

Caranci says the fungicide controls the disease problems very well on greens, tees and fairways.

"It lasts for a good 28 days, giving us control that is twice as long as any other product we've used."

Fewer applications is another benefit to the fungicide program.

Aerification, IPM

Caranci and his 12-person crew try to follow an Integrated Pest Management approach, and look for chemicals without restricted use designations.

Greens, tees and fairways are aerified twice each year, and pest control products are usually used on a curative rather than preventive basis. Each year, they overseed with one ton of a Penncross/bluegrass seed mix. In addition, they use a dragmat to spread and smooth the clippings.

The course features a variety of trees that Caranci has planted over the years, including Bradford pear, crabapple, dogwood, forsythia, lilac, and weeping birch.

LM

Ekas of Saxon Course wins GPGCA service award

The Greater Pittsburgh Golf Course Superintendents Association has given its Christian Morup Award to Frank Ekas, Sr.

The Morup award is the association's highest honor, and is given annually to the person who "exemplifies the dedication, professionalism, and integrity of the turfgrass profession."

Ekas, 74, is owner/operator/superintendent of Saxon Golf Course, which he originally built in 1962 and owned in partnership with Bud Klingensmith. Today, Saxon is a 27-hole layout, and is considered to be one of the best public golf courses north of Pittsburgh. □

More courses for youth needed, says ASGCA

The American Society of Golf Course Architects is happy that Tiger Woods is making such a positive impact on the game of golf. Now, says ASGCA, more courses are needed to meet the anticipated need.

"Woods is leading an army of youngsters onto the golf course. He's introducing them to a game that until now was virtually foreign to kids, especially minorities," reports the Association. "Unfortunately, there's not always a place for these young converts to play."

"Despite the fact that about 425 new municipal or daily fee courses opened for play in 1996, we're still short of affordable golf facilities in virtually every major market in the U.S.," says Denis Griffiths, ASGCA president.

Griffiths encourages golf course architects to make a greater effort to design courses that cost less to build, and will therefore cost less to play. He also suggests that the practice of some public courses limiting players' minimum ages to 14 or 16 may change.

The ASGCA has a library of literature for those interested in developing new course or remodeling existing ones. Address for the Society is 221 N. LaSalle St., Chicago, IL 60601. □



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Pesticides, golf cars in Calif. GCSA news

The ban on city pesticide use in San Francisco may expand to cover city easements and property leased by the city, reports the GCSA of Southern California. This could include property that has city utility lines running over it. Advocates of the ban are determined to expand it, reports the Association.

Also, the use of golf cars on public roads and highways in California is being addressed in new legislation. □

Keeping it green

All playing fields can benefit from overseeding, which protects the dormant bermudagrass and enhances winter color.

by BILL KNOOP, PH. D./
Technical Editor

Bermudagrass is a great grass for the South. It is used for everything from home lawns to athletic fields. The only problem that some find with bermudagrass, and many do not consider it a problem, is that it is brown and dormant during the winter. Most of us would rather see green turf all year.

In the South, outdoor sports are played nearly all year. Play does not stop just because a bermudagrass field goes dormant. But if play continued, the field would soon be reduced to bare soil. All athletic fields, from putting greens to backyards that host the neighborhood football, benefit from overseeding. It's not just a question of looking

green, overseeding protects the dormant bermudagrass. Some spring sports such as baseball may never be played on a green field unless the field is overseeded. Any field used for late fall, winter or early spring sports should be considered for overseeding each year. A good green turf is a safer field for play than a bare field. An actively growing, overseeded field can tolerate a lot more wear and tear than a dormant field can.

Perennial ryegrasses, rough bluegrass (*Poa trivialis*), and bentgrass are often used for overseeding. Sometimes even one of the fine fescues such as red fescue may be used.

Perennial ryegrass superior

Most research projects have focused on the use of

cont. on page OS4



Slit seeders: a blade cuts through the bermudagrass turf and seed is placed at the soil surface.



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Circle No. 127 on Reader Inquiry Card

Timing, nutrition & selection

The challenge for the golf course superintendent or landscape manager who overseeds cool-season species into warm-season species, is to provide proper care for both types of grasses.

Remove excess thatch layer

Thatch reduction is an important first step. Reduce excessive thatch that is greater than a half-inch. The amount of thatch produced in turf is determined by certain management practices or the variety of warm-season species used. Remove excess thatch beginning in July, so that the grass plant can recover quickly in summer.

Thatch can be removed by verticutting, aeration and top-dressing.

Watch temperatures

The best results are produced when soil temperature is 72 degrees F at about a two-inch depth; daytime air temperatures are 80-85 degrees F and nighttime temperatures are at 60 degrees F.

Of course, special events may require you to overseed earlier or later.

If you overseed early, there will be strong competition from the bermudagrass that is still actively growing. Disease pressure will also be strong, which will increase the need for fungicides or seed coated

with a fungicide. A cold snap may also occur, which would hinder seed maturation.

Nutrition: nitrogen & phosphorus

These two nutrients need to be readily available in the soil for the new seedlings. Phosphorus should be a monoammonium (MPA), which has a lower salt index.

Fertilizer applications should be light and frequent, on a two- to three-week cycle, until the turfgrass stand has filled in.

Fertilizer applications should be focused on either the cool-season species or the warm-season species, depending on the time of year.

Seed quality tips

When choosing a cultivar, consider the following:

- 1) Seed cleanliness; free of *poa annua*, bentgrass and off-type grasses.
- 2) Seedling vigor, for strong, quick establishment.
- 3) Germination: fast and uniform.
- 4) Resistance to major diseases.
- 5) Adaptation: to high or low mowing, and fertility.
- 6) Seed standards for ryegrass:

- ▶ pure seed minimum: 97.00%
- ▶ other crop, maximum: 00.50%
- ▶ weed seed, maximum: 00.50%
- ▶ inert materials, maximum: 3.00%
- ▶ germination, minimum: 90.00%
- ▶ no noxious weeds from any state

Irrigation specifics

Keep seedlings moist, but not in a flooded condition. Irrigation cycles are important, especially during the main part of the day, from 10 a.m. to 4 p.m. Repetition of the cycles and time depends on soil, temperature and wind. If the areas are flooded, the disturbed seed may float, which will result in an uneven turfgrass stand. □

—by Rick Elyea, Turf Seed, Inc.



Elyea: disease pressure concerns with too early overseeding.

About perennial ryegrass

Used in Southern overseeding in combination with other grasses.

Average germination: 3-7 days

Growth habit: bunch-type

Seeds/pound: 25,000-28,000

Blade width: 2-4 mm.; red base at crown; glossy underside

Overseeding rates: up to 30 lbs./1000 sq. ft.

Strengths:

- Improved mowing, less leaf shredding
- Rapid germination and establishment, fully established within 6 weeks
- Excellent repair capability
- Improved vigor
- Excellent wear tolerance
- Contains endophyte for natural insect resistance
- Improved density
- Improved heat tolerance
- Low thatch tendency

Fertility requirements: medium to high. Performs best with 4 lb. N/1000 sq. ft. per year.

Recommended varieties: Palmer II; Prelude II Repell II; Yorktown III. □

—Source: Lofts Seed, Inc.

Choose the right variety

To obtain the best results when overseeding, you need to choose the appropriate species and variety for your particular needs.

Over the past 20 years, perennial ryegrass has been the most popular species for overseeding warm-season turfgrasses, and for several reasons.

These include:

- quick establishment;
- attractive, dark green color;
- good wear tolerance.

Possible transition trade-off

Some of the new, prostrate growing, heat tolerant varieties, such as Top Hat, produce exceptional turf quality, particularly under close mowing regimes. There are, however, trade-offs with some of these varieties in that they may not transition out as well, especially in more northern areas. Other varieties, such as Derby Supreme, are more erect-growing and are easier to mow out in the spring.

Poa trivialis is a species that is becoming more popular for overseeding. It is used alone, primarily on golf greens, and in mixtures with perennial ryegrass for fairways and other turf areas.

Poa trivialis, unlike perennial ryegrass, can be cut very close as a seedling. The smaller seeds of *Poa trivialis* also mean that less aggressive renovation of your bermudagrass is required prior to overseeding. Another benefit of *Poa trivialis* is that it transitions quite easily. *Poa trivialis* is not the best grass to use for overseeding high traffic area, because it does not have the wear tolerance of perennial ryegrass.

Chewings fescue is another grass used for overseeding, almost always in a mixture with other species.

Chewings fescue varieties, such as Enjoy, add density to an overseeded turf. They also transition well. □

—Steve Johnson, senior research scientist, International Seeds, Inc.

cont. from page OS1

perennial ryegrasses for overseeding and, as a result, one or more of the perennial ryegrasses are commonly used.

Perennial ryegrasses produce a superior overseeding than the less expensive annual ryegrass.

Quick germination the key

The ideal turfgrass used for overseeding germinates quickly, grows at reasonably low temperatures and then dies when the weather gets warm enough for bermuda to begin growing again.

Since the newly overseeded turf must be watered fairly frequently for good seed germination, seedling diseases may develop in warm weather. Consider using a fungicide at the time

The heavier the overseeding rate, the greener the turf, but the harder it may be to get rid of in the spring. The final seeding rate is usually based on experience.

of overseeding, or the use of seed pretreated with the proper fungicide.

The final choice of a turfgrass or of turfgrasses for overseeding is mostly based



Walk-behind spreaders are used to cover 'tight' areas, such as tees or around greens.

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Characteristics

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|----------------------------|--|
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| BrightStar II (2M3) | A top variety in the 1995 NTEP trials. A unique leafy, decumbent, late maturing cultivar |
| BrightStar | Tops 1994 NTEP ryegrass trials / Extremely dark color / Dwarf growth habit |
| Charger | Good low fertility and cool weather performance / Improved disease resistance |
| Charger II | Dark, dense, dwarf turf ranks high in winter overseeding trials. Experimental code 2QM. |
| Catalina | Low growth profile and reduced clippings / 78% endophyte / Tested as GH-94 |
| Citation III | Excellent heat and wear tolerance / Improved disease resistance / Rich, dark green color |
| Manhattan 3 | Very dense growth habit / Rich color / Good mowing qualities / Contains endophyte |
| Navajo | Dark green, disease resistant turf / Excellent for overseeding / Good shade tolerance |
| Quickstart | Heat tolerant / Establishes quickly / Disease resistant / Excellent for overseeding |
| Roadrunner (2ET) | Dark blue-green color ideal for winter overseeding and permanent turf / Contains endophyte |
| Sunrye (246) | Dark green color / Dwarf growth habit / Contains endophyte / Disease resistant |

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WINTER OVERSEEDING

GRASS SPECIES	GREENS	TEES	FAIRWAY/ GROUNDS	ROUGHES	OUT-of-PLAY AREAS
Perennial ryegrass	50 [250]	40 [200]	30 [150]	20 [100]	10 [50]
Chewings fescue	40 [200]	30 [150]	30 [150]	20 [100]	10 [50]
Creeping bentgrass	4 [20]	4 [20]	4 [20]	2 [10]	2 [10]
Redtop	3 [15]	3 [15]	3 [15]	2 [10]	2 [10]

When mixing two species with different recommended seeding rates, always choose the higher of the two seeding rates. Then, calculate the weight of each component by multiplying the seeding rate by the percentage (as a decimal) of each component. For example, if a recommendation calls for a 90:10 mix of tall fescue and Kentucky bluegrass for roughs, use the overall seeding rate of 8 lb. per 1000 sq. ft (40 grams per square meter). Next, multiply 8 lb. x 0.9=7.2 lb. of tall fescue (36 grams) and 8 lb. x 0.1 = 0.8 lb. of Kentucky bluegrass 94 grams.

Note: all seeding rates are in lbs. per 1000 sq. ft.

[number in brackets is seeding rate in grams per square meter]

on experience. The LANDSCAPE MANAGEMENT Pocket Seed Guide, published each July, contains the National Turfgrass Evaluation Program variety test results. Review these results and then select the turfgrass or blends of turfgrasses that tend to do the best. Most often, mixtures of several varieties are used.

Overseeding rates

When selecting an overseeding application rate, there are several factors to consider. There are not any absolutely ideal overseeding rates. A lot depends on the area's use. Turf that's heavily used during the winter, such as putting greens or athletic fields, will need heavier seeding rates than areas just requiring winter color. The easy answer to the question of rate is not to use any more than necessary.

Generally the higher the application rate, regardless of turfgrass variety, the harder it

may be to get rid of the following spring. The goal is to establish enough cool-season turfgrass plants to get the job done, but not so many that those plants will severely compete with the bermudagrass stand as the bermudagrass comes out of dormancy in the spring.

The larger the seed, the higher the application rates. If a perennial ryegrass or a blend of perennial ryegrasses are used, the rate used to overseed a putting green or a tee may be between 15-20 pounds per 1,000 sq. ft. The minimum rate for large areas such as athletic fields or golf

course fairways is 200 pounds per acre. More often than not, the rate may be two or three times the minimum. Home lawns, lawns around businesses and apartments usually fall into the 5-10 pounds per 1,000 sq. ft. range.

Smaller seeded turfgrasses such as that of *Poa trivialis* or bentgrass are seeded at much lower rates. The seeding rate for *Poa trivialis* is usually $\frac{1}{2}$ or less that of perennial ryegrass, and the rate for bentgrass is usually in the one to three pound per 1,000 sq. ft. range. It is not unusual for mixtures of various cool-season turfgrasses to be used. Which grasses are included in a mixture and how much of each are in these mixtures is usually based upon the experience of the user.

The heavier the overseeding rate, the greener the turf, but the harder it may be to get rid of in the spring. The final seeding rate is usually based on experience. The



Bermudagrass is close-mowed prior to overseeding.

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Overseeding trials in California and Arizona also confirmed that while Special FX had comparable color and texture to some 3-way perennial ryegrass blends, it also had excellent transitional qualities due to the presence of the intermediate ryegrass.

For a copy of the University of Florida, University of Arizona, or Bermudagrass Triangle Research Center trials, please contact Turf Merchants.

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Early/late fertility program works for Tucson manager

If there's one thing overseeded rye grass needs in Tucson, Arizona, it's lots of fertilizer. So says Murray Dew, owner of Catalina Landscape Maintenance.

Dew overseeds about 45 commercial properties every winter, including malls and apartment complexes, and the turf he produces is exceptionally thick and green. There's only one way to keep it that way: fertilize early and late.

"We fertilize every four to six weeks during the growing season," Dew says, and he starts soon after germination.



If he plants a plot early (in Tucson, that's in October) he begins to broadcast granular fertilizer right after the first mowing. If he plants late, i.e., after mid-November, he won't fertilize until after the second mowing.

"If we have an account that has a lot of shade, we overseed them early," he says, because those October plantings can occur during hot weather.

Dew likes Dis-Per-Sol with iron. He starts adding iron at about the third cutting, to give the turf a deep green color, and keep it there.

Catalina Landscape Maintenance employee Robert Chapell at an apartment complex overseeded by Murray Dew's crews. Dew plants 20 to 25 pounds of seed per 1,000 square feet.

cont. on page OS10



Harrowing bermudagrass around a golf bunker.

goal should be to use the lowest rate possible and still get the desired results.

Application timing

It is nearly impossible to pick the best time to plant an overseeding. If it's planted too early the chance of a disease may increase and competition from bermudagrass may be a problem. Planting too late could result in a complete failure because of low temperatures.

While the turfgrasses used for overseeding are cool-season turfgrass and are capable of withstanding low temperatures, they must grow to some stage of maturity before the cool temperatures arrive. While there are no guarantees, one rule of thumb to

follow is to overseed about two months before the average date of the first frost in your area. We certainly can't predict the weather two months in advance, but six to eight weeks of favorable weather for cool-season turfgrasses and unfavorable for warm-season turfgrass will allow the overseeding to mature enough to survive freezing temperatures.

No two years are alike, but your experience and the experience of others in your area will help to pin down the best time to overseed.

Preparation for overseeding

The basic goal is to get the cool-season seed down to the soil surface. As with all seedings, it is desirable to get the

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to us. We've found that the Seed Research perennial ryegrasses have excellent seedling vigor and tiller-out more quickly. We understand that it's due to the high levels of endophyte present in the components of Champion G.Q.”

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Ed Miller
Director of Golf Course Operations
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Early/late *cont. from page O58*

Dew uses a couple of techniques to determine whether he needs to add fertilizer. One is to examine the grass to see if blades are thin; the other is to ask his crews to tell him if the grass is mowing too easily. Either test will alert him before the turf becomes weak.

It takes two weeks for regular fertilizer to kick in, Dew says, so he likes to keep well ahead of the curve. Yellow streaks can appear in plots—from missed broadcast applications, soil conditions or poor water penetration—and he hates that.

So he fights yellow streaks with foliar applications of Deep Green. He adds urea at one pound per 100 gallons to the foliar spray, and gets great results long before a granular fertilizer would take hold.

"It greens it up within 48 hours," he says.

Tucson is a difficult place to keep rye in good condition, says Dew, who had a landscaping business in Phoenix before he came here. Winter weather can range from cold and rainy to hot and dry. The results can be poor turf, and that is exactly what clients pay a lot of money to avoid through overseeding.

"A lot of these are high-end rental units," Dew points out, and overseeded turf has to last up to six months.

Another tip he uses to keep good rye appearance is to seed "a little heavier than most." He plants 20 to 25 pounds
cont. on page O512

seed in direct contact with soil. Any seed that germinates and is not able to extend its root into the soil will not live long. Some bermudagrasses such as the hybrids used for golf course greens tend to form a very dense surface. It might be hard to get seed down to the soil. A light thinning with a vertical mower or dethatcher might help.

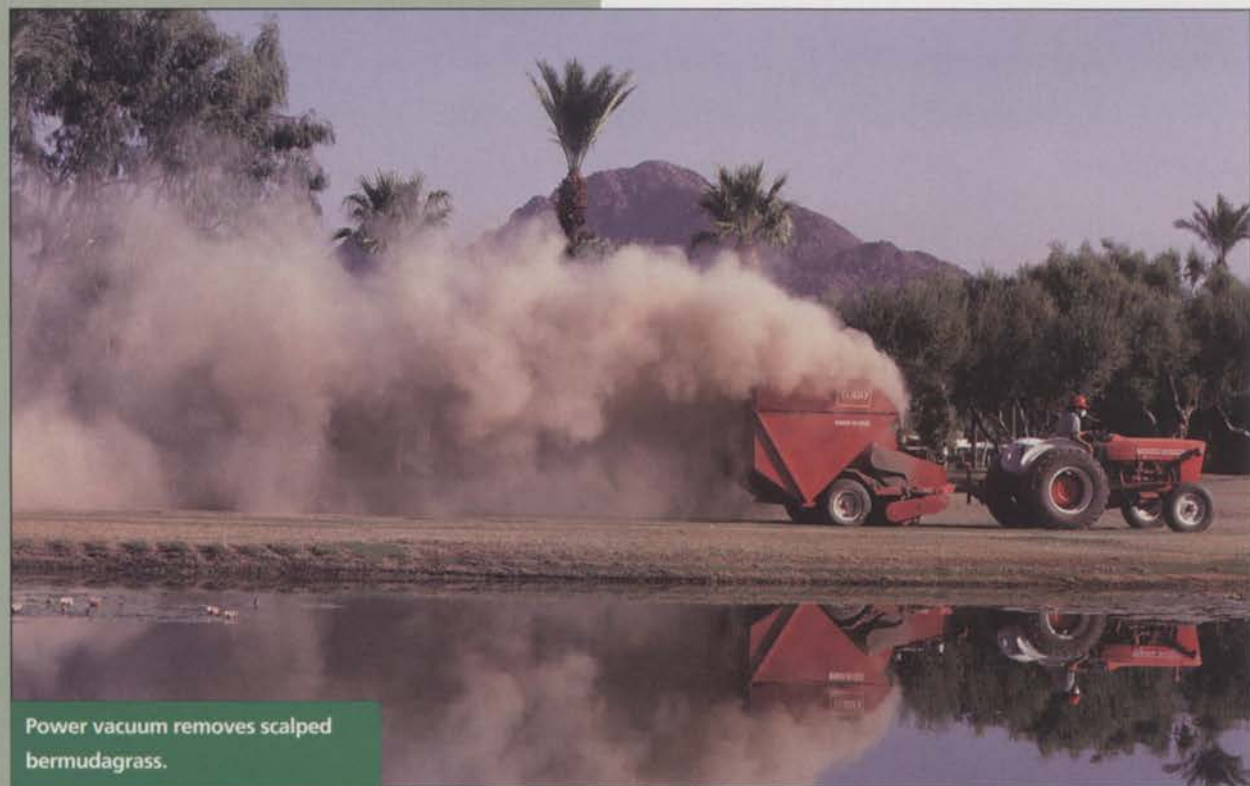
Scalping has been a technique used to reduce the density of bermudagrass greens. There is a fair amount of evidence that at least in some parts of the south this has contributed to the over-winter of bermudagrass. All in all, vertical mowing or dethatching seems to be the best way to prepare putting greens or tees for overseeding.

Bermudagrass, such as common, that tend to be more open in their growth

The worst enemy of an overseeded bermudagrass green is a long, cold, wet spring. Its best friend is an early, hot summer.

form may not need any special preparation before overseeding.

All types of seeders have been used to overseed. Rotary spreaders cover a large area fairly quickly but when it's desirable to have a straight edge between the seeded and the unseeded areas, drop spreaders are used. Slit seeders which use a blade to cut through the bermudagrass turf so the seed is placed at



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Where Great Grass Begins

Early/late cont. from page OS8

of seed per 1,000 square feet. He has to charge a little more for the extra seed, but his clients like the results.

Irrigation is a constant worry too, Dew says. That's particularly true around apartment complexes that have contrasting plots of shaded and open turf.

"It's a tough call there," he says of those jigsaw plots of turf. His crews program the irrigation controllers at most properties, and they are taught to give sunny plots double the water that shady plots receive.

That amounts to four or five irrigations a week on sunny turf. Because Dew relies on great looking turf to keep his business up in a highly competitive field, he will actually irrigate to suit the cool plots and then hand-water the hot plots to bring them up to where they need to be.

"We've got to constantly check it after we mow," says Dew, who employs about 50 people. His crews are alert to weather changes, because Tucson can go from 40 to 85 degrees in a day's time. That can dry out rye grass very quickly.

Another problem that can develop is that if an area is oversprinkled, the extra water will leach fertilizer out of the root zone. This can destroy Dew's first principle for good overseeded turf, so he is very conscious of how water scheduling is affecting his fertility program. □

—Don Dale

the soil surface have been found to be very effective. Another effective overseeder is a machine that uses a series of air streams to direct the seed down into the turf. The speed of the air stream drives the seed down to the soil surface. This type of machine is shielded so that a straight line is produced and because of its design, overseeding can even be accomplished during a rain storm if necessary. There are also machines that can apply dry seed and mulch at the same time. Their small size makes them ideal for seeding home lawns.

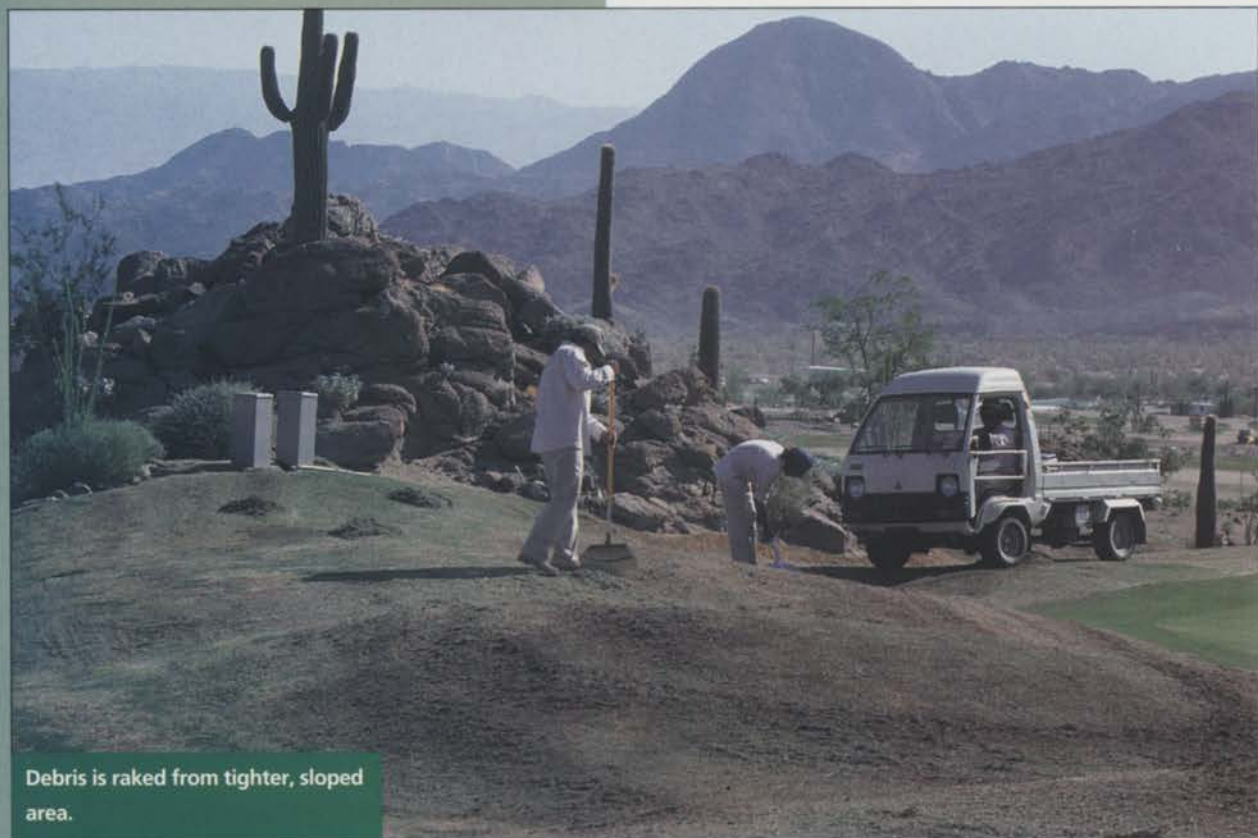
After overseeding, a good watering may help move any seed that's caught up on the grass plant down to the soil. Another post overseeding practice is that of topdressing.

After overseeding, a good watering may help to move any seed that is caught up on the grass plant down to the soil.

This is especially helpful if there's any kind of a thatch layer. It's hard for a seed to germinate and grow in thatch. Topdressing will help to provide the seed-with-soil contact.

Post seeding care

The newly overseeded turf must be watered just like



Debris is raked from tighter, sloped area.

any new seeding. The seed must be kept moist but not saturated. As the new seed germinates and begins to grow, the watering frequency is reduced. Mowing begins as the new grass reaches what will be the normal height of cut. Ideally, traffic should be kept off the overseeding until it is necessary to begin mowing. Keep heavy traffic off the overseeding until the new plants are established, perhaps after two or three mowings. Light applications of a soluble nitrogen fertilizer may begin after the overseeding is two or three weeks old.

Transition back to bermudagrass

The best transition in the spring from a cool-season, overseeded playing surface back to bermudagrass occurs when the overseeding slowly fades out as the bermuda begins to green up. Perhaps an even better transition would occur if the overseeding would die one day and the bermuda would green up the next day. It doesn't work that way.

As the warm weather begins to return to the south in early spring, the overseeded grasses begin to grow fairly rapidly. By the time it gets warm enough for bermuda to begin to grow, the overseeding is usually growing at its best. If it doesn't get hot enough quickly enough the overseeding may offer the bermudagrass some very stiff competition. When the soil temperatures get to around the mid 60 degree F range, bermuda begins to grow. The bermuda plant has been liv-



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Seed source important factor

It's very important to buy seed from an established seed distributor, one with a solid connection to a good Oregon supplier. You do get what you pay for.

Cheap seed is cheap for a reason, and the reason almost always is weed or crop contamination or a problem such as lower germination.

VNS (variety not stated) seed can be dangerous for use. Often, inferior agricultural seeds or common types are "dumped" onto the market as VNS.

The end results on a golf course can be disastrous.

Higher seeding rates result in easier transition. With higher rates the seedlings stay more juvenile and will transition out more easily in the spring.

With a lower seeding rate the new plants have more room to tiller out, produce deeper roots, and will be more "perennial," and will persist later into the spring.

Broad leaf weed contamination is generally more objectionable in overseeding situations than contamination with weedy grasses. Broadleaved weeds often form ugly "rosettes" throughout the turf that need to be sprayed out. With the exception of *Poa annua*, grassy weeds and crop seldom are an appearance problem in overseeding. □

Dr. Jerry Pepin, Pickseed West



Pepin: higher rates, easier transition

Making bentgrass work

The interest for bentgrass greens continues to increase in the southern U.S. The playing quality of creeping bentgrass is far superior to bermudagrass, and the better golfers are demanding it.

In areas such as Arizona, there have been very successful conversions to bentgrass.

We have seen success from Texas to Florida. These golfers know about bentgrass greens, and can really appreciate the better quality putting surface the new bents produce. This can be seen with the increased play

and the increased revenue at courses that have overseeded and converted either *Poa annua* or bermudagrass to bentgrass.

In the past five to six years, the new varieties such as SR 1020, Providence, Crenshaw and Cato have been planted on courses in the south and because of their breeding and the new age superintendent managing them, they are successful.



Robinson: supers make bentgrass work in South.

The superintendent is the one who really makes creeping bentgrass work in the south. Our company has many courses using our grasses in areas where bentgrass was never tried before, or if it was used had failed. There is a group of very innovative superintendents out there that have developed a new way to grow bentgrass in the south and their results are excellent. These techniques are revolutionary, yet very practical.

Several methods have been used to establish the bentgrass greens and they vary depending on the structure of the green and the grass that was growing there. Anybody interested in the methods that have worked can contact us for details.

Mike Robinson, Seed Research of Oregon, Inc. □

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Circle 109

ing on food reserves that it stored up the previous fall. It must re-establish its leaf system before these food reserves run out. The presence of vigorous overseeding tends to inhibit bermuda growth.

At the first signs of bermuda green up it has proven to be desirable to take some form of action to reduce any possible competition from the overseeding. The action may be chemical or it may be mechanical.

There are chemicals that can kill the overseeding without harming the dormant bermuda if they are properly applied. There are also chemicals that can stop the overseeding from growing without killing it. The two most popular mechanical methods involve very low mowing and the use of a fairly vigorous vertical mowing program.

When it is time for the bermuda to renew its growth, it has been proven that some action that harms the overseeding must be taken.

The worst enemy of an overseeded bermudagrass green is a long, cold, wet spring. Its best friend is an early, hot summer. **LM**

*Overseeding photos by
Larry Kassell.*

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Greens & tees: some specifics

Uniform application of seed across the seedbed is necessary to provide an attractive appearance. This is especially important on golf greens to insure a good putting surface.

—Apply seed when the area is dry and windspeed is less than 5 mph, to prevent the tracking of seed.

—Apply half the seed while moving in one direction, and the other half while moving at right angles to the first pass.

—Dew removal can be hastened by poling or dragging a hose across the green.

—Spiking of greens in several directions just prior to seeding enhances seed-to-soil contact.

However, care must be taken to prevent seed from concentrating in the holes, which would cause a speckled appearance.

Make sure that spreaders are accurately calibrated to deliver the desired amount of seed.

Some managers pre-weigh the seed to be applied to a known area, such as a putting green, and slowly meter it out over the area.

This requires that numerous passes be made over the area to insure uniform coverage. Clearly define the margins of the overseeded area by using a drop spreader. A drop or centrifugal spreader can be used to apply the remaining seed within the margins. □

—From *Turf Seed Inc.'s Winter Overseeding Guide/ North Carolina State University.*

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Special FX PR-IR	5.82



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First Cut	6.8
Tophat/Regal/Derby Supreme	6.6
Brightstar/Quickstart/Navajo	6.4
Divine PR	6.4
Pegasus/Imagine	6.4
Citation-III	6.4

YEARLY MEAN TEXTURE

First Cut	7.9
Brightstar/Quickstart/Navajo	7.8
Pegasus/Imagine	6.9
Tophat/Regal/Derby Supreme	6.9
Divine PR	6.8
Citation-III	6.4

YEARLY MEAN DENSITY

First Cut	7.3
Pegasus/Imagine	6.6
Tophat/Regal/Derby Supreme	6.6
Divine PR	6.3
Brightstar/Quickstart/Navajo	6.3
Citation-III	6.0

MEAN WINTER QUALITY

First Cut	6.8
Citation-III	6.6
Divine PR	6.5
Brightstar/Quickstart/Navajo	6.5
Tophat/Regal/Derby Supreme	6.4
Pegasus/Imagine	6.3

Perfecting the Art of Overseeding



TURF MERCHANTS, INC.

33390 Tangent Loop / Tangent, Oregon 97389
Phone (541) 926-8649 / Fax (541) 926-4435
800-421-1735 (Outside Oregon)

Please Contact Turf Merchants for a complete copy of the above trial results.

Club Car, Inc. has named Michael Harris vice president, sales and marketing. Harris has served Club Car for 18 years, and was most recently vice president of sales. He has held other posts at Club Car, in finance and sales.

Deere & Company has been named the "Official Golf Course Equipment Supplier of the PGA Tour," effective 1998 through 2006. The company will provide a full range of golf and turf equipment—along with utility vehicles and selected construction equipment, on an exclusive basis—to each of the PGA tour's owned-and-operated Tournament Players Club courses. As courses are added to the TPC network, Deere will provide the equipment. The PGA Tour will de-

sign, construct and operate a new Tournament Players Club, to be named TPC at Deere Run, to serve as the future home of the Quad City Classic. Deere also reports it is planning "the biggest new product introduction in its history." The company, "is designing machines based on extensive customer and dealer feedback sessions," says Bob Tracinski, business communications manager. "We're even looking to enter whole new product categories where we've had zero presence up to now," says Tracinski.

IPM Systems, Inc. has named John Trioli GPS mapping coordinator. Steve Prusik is Geographic Information Systems Coordinator; Raul Moya is Contract Services Manager. IPM Systems develops new and innovative products, services and

systems based on sound pest management principles for golf courses and in specialty markets worldwide.

 Robert Chanson, Ph.D., is director of **Plant Health Care, Inc.**, a leading supplier of plant health care related products for the forestry, horticulture and land restoration industries. Chanson is a member of the board of directors, and oversees strategic development of PHC, Inc.'s international activities. PHC is based in Pittsburgh, Pa.

Seed Research of Oregon, Inc. has named Eagle Point Golf Course its "Golf Course of the Year for 1996." The course, located in Jackson County, Ore., was designed by Robert Trent Jones, II, and is managed by superintendent Dave

Stephens. Eagle Point features rolling contours and a 50/50 blend of Providence and SR 1020 bentgrass for greens. The course is reported to be the first design/build/own project for the Jones design firm.

Seeds West, Inc., Roll, Ariz., is on-line with a website: www.seedswest.com. The site contains information about the company and many of the warm season turfgrass and forage seed varieties available from the company, including certified varieties of bermudagrass and buffalograss. Complete technical data is available about the varieties, including development, characteristics and planting information.

Toro has aligned its irrigation and international businesses to complete the first phase of the integration of the **James Hardie Irrigation Group** into Toro. Rick Parod is vice president/general manager of the irrigation business.

The Professional Lawn Care Association of America thanks the following companies who helped supply the "Renewal and Remembrance" at Arlington Cemetery in February: Georgia Marble; Lesco; Stihl; Tessengerlo Kerley; The Andersons; and Burlington Seeds. Legislative Day sponsors were: FMC Turf & Ornamentals; Bayer; DowElanco; Novartis Turf & Ornamentals. Contributors included: The Andersons; Zeneca Professional Products; American Cyanamid; Riverdale Chemical; Lesco; and PBI Gordon. **LM**

Info center

VIDEOS AND LITERATURE FOR THE GREEN INDUSTRY

DON'T TAKE THIS PERSONALLY... "Perennials for Dummies," by Marcia Tatroe, with help from the National Gardening Association in Burlington, Vt., provides thorough, down-to-earth information on perennial selection and installation. Tatroe covers every detail in putting in a flower garden: planting, fertilizing, mulching, and maintenance, raised beds, sunny-side gardens, and much more. Includes information on pest and disease control. (This would be a great book for landscapers to give to clients who like to do-it-themselves when you're not around.) Includes a 32-page color insert that features different types of perennials, as well as sample plans to create beautiful flower gardens. "Photo op" icons next to flower descriptions let you know which ones are included in the color insert. "Flower killer" icon warns of what *not* to apply. Also available: "Roses for Dummies." Each costs \$16.95. Contact: IDG Books Worldwide, Inc., 919 E. Hillsdale Blvd., Suite 400, Foster City, CA 94404; (415) 655-3000; fax: (415) 655-3299. For info on other IDG books: www.idgbooks.com

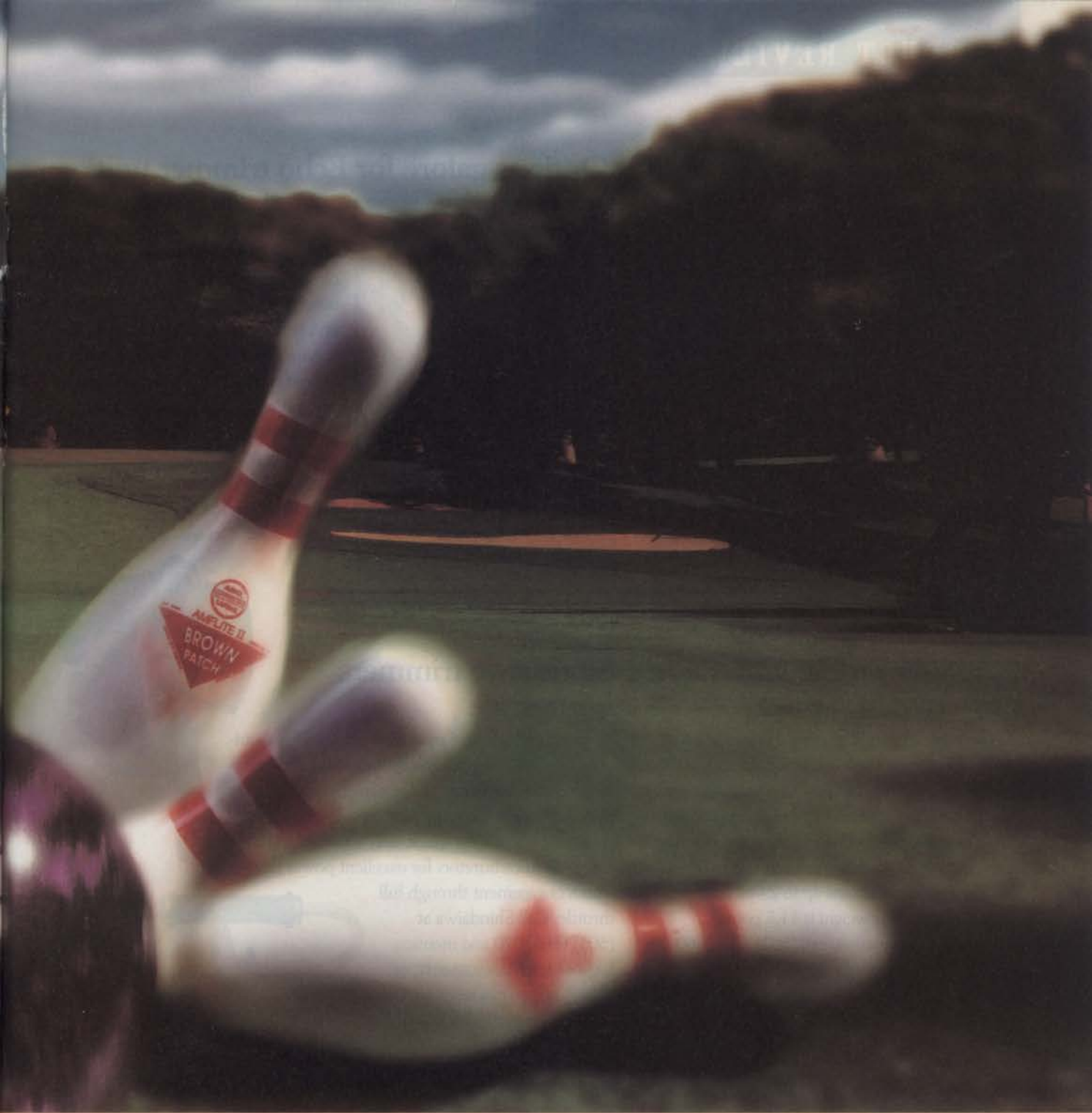
SPANISH LANGUAGE SAFETY VIDEO... EPIC of Wisconsin, Inc. has a new Spanish title in its "Superintendent's Video Workshop" series: "Safety Basics on the Golf Course" is a 26-minute video that promotes and stresses personal responsibility for one's own safety in the shop, when operating tools and on the course. Developed with the help of Paul R. Latshaw, well-known superintendent. Contact: EPIC at (800) 938-4330.

**NOTHING KNOCKS DOWN
TOUGH TURF DISEASES
FASTER THAN NEW CHIPCO 26GT.**



For years, you've relied on CHIPCO® 26019 brand fungicide to deliver the best brown patch and dollar spot control available.

But, sometimes, when soaring summer temperatures make you feel the heat, you've turned to contact materials to give you the quick disease knockdown you need. Now, you can get the same powerful, long-lasting disease control you've come to expect from CHIPCO® 26019, plus the quick knockdown you demand. Introducing the new CHIPCO® 26GT: • University trials prove that new CHIPCO® 26GT provides consistently quicker knockdown of dollar spot and brown



patch than the standard CHIPCO® 26019 • In fact, CHIPCO® 26GT™ was as much as 48 hours faster. That means you'll see activity against disease mycelium within just 24 hours after application. And that means faster turf recovery. You can also count on CHIPCO® 26GT™ to give you both preventative and curative activity against dollar spot and brown patch. • Best of all, new CHIPCO® 26GT™ gives you the same powerful, broad-spectrum, long-lasting disease control you've come to expect from CHIPCO® 26019. Now you don't have to sacrifice quality and duration for quickness.

You get them all with new CHIPCO® 26GT™.

26 chipco
GT

Brown Patch Knockdown Chipco® 26GT™			
	0DAY*	1DAT	2DAT
UNTREATED	PRESENT	PRESENT	PRESENT
CHIPCO® 26GT™	PRESENT	NONE	NONE

*0DAY = Spray applied; DAT = Day(s) After Treatment
1996, Ohio State University, Penncross Bentgrass

chemical, always read and follow instructions on the label. For additional product information, please call 1-800-334-9745. © 1997 Rhône-Poulenc Ag Company.

RHÔNE-POULENC



Hydraulic pruner with high power:weight ratio

The PR41 hydraulic-powered pruner from Stanley Hydraulic Tools is lightweight and easy to handle, with the highest power:weight ratio on the market. The lightweight head design and full power operation on both the closing and opening of the cutting jaw makes it fast and safe to operate. The pruner cuts limbs up to 2¼-inches. Length is 84-inches; weight is 11.5 pounds.

For more information, call (503) 659-5660 and tell them you saw the news in *LANDSCAPE MANAGEMENT*, or

Circle No. 250

Options galore for Echo trimmer unit



The Echo SRM-2100SB can function either as a line trimmer or blade brushcutter. Then, due to its split-boom design, it can be easily converted to an edger or other tool with optional attachments. The unit features a 21.2cc, dual-ring, piston engine with Pro-Fire electronic ignition backed with a lifetime ignition-module part warranty. Unit includes vibration-reducing handles and engine mount and a see-through fuel tank.

Contact Echo Incorporated, (847) 540-8400, and mention LM, or

Circle No. 252

Shindaiwa trimmers impressive

Shindaiwa's line of grass trimmers and brushcutters offer full anti-vibration systems; high power-to-weight ratios for better performance; chrome-plated cylinders; two-ring pistons; one-piece electronic ignition for quick, easy starts; and TK and Walbro carburetors for excellent power from clutch engagement through full throttle. Call Shindaiwa at (503) 692-3070 and mention *LANDSCAPE MANAGEMENT*, or

Circle No. 253



CHIPCO26GT works faster

An improved formulation of CHIPCO26019 FLO provides faster knockdown of brown patch and dollar spot, and offers quicker turf recovery, Rhone-Poulenc announced at the GCSAA Show in Las Vegas in February.

James Merick, of Rhone-Poulenc, said that the improved product, known as CHIPCO26GT, provides the same broad spectrum disease control and the same long residual but knocks down brown patch and dollar spot up to 48 hours faster than the standard '26' product which typically worked in four to six days. "Customers wanted it to work faster," said Merick. So the

CHIPCO scientists went to work. Quicker disease knockdown allows turf to repair disease damage and begin its recovery more quickly, added Merick.

In addition to excellent brown patch and dollar spot control, CHIPCO26GT controls a broad spectrum of turf diseases including: leaf spots; fusarium blight; gray and pink snow mold; and coritcium red thread. It is also available as a flowable formulation and is compatible with the same tank mix partners as CHIPCO26019 FLO. Call Rhone-Poulenc at (919) 549-2000, or

Circle No. 251