### design case study

Completing other parts of the facility on time were important, as well.

"We wanted to finish all of the construction around the course, including the clubhouse, bathroom facilities, maintenance buildings and dirt work before we opened to the public in order to feature a complete package to our customers," Tsai says.

### Earning a reputation

As Tsai manages the course through its inaugural season, he sees it as a learning year. Management hopes to generate 30,000 rounds. But they must face the challenge of dealing with golfers' perceptions of Dublin Ranch.

"Most golfers call and find out that we are a par-63 course and are cautious," Tsai says. "They are afraid that we are a little course in a field or near a driving range. When players come here, they are surprised by what they find. It is our mission to find the proper way to bring people here to try us out in our first year."

Tsai has instituted 10-minute tee-time intervals so players don't stack up on holes. This is another way to guarantee an enjoyable golfing experience for players. He says that's important to attract serious golfers during his first year of operation.

"I want the regular golfers to discover us first in order to develop our reputation," he says. "While our course is attractive to many levels of golfers, I don't want us to be considered a beginner's course, a practice course or just a family course. Dublin Ranch's design allows us to be all of these things over time, but this first year is important to us to develop a strong reputation."

Business groups also are a target audience.

"This layout would be an excellent venue for corporate groups that usually include all levels of golfers, as even the occasional



The first hole at Dublin Ranch overlooks the city of Dublin.

player can get around without losing a ball," Knott says.

Lin's decision to build a par-63 course was driven by space restrictions, but he saw the value of providing a quality course that could be played in a short period of time. However, the immediate hurdle is to sell the concept of a shorter course to the golfing public.

"We feel that as players find out about what we offer here, we will win over the repeat players," Tsai says. "Only time will tell." GCN

Doug Saunders is a freelance writer from Truckee, Calif. He can be reached at dougs@sierra.net.



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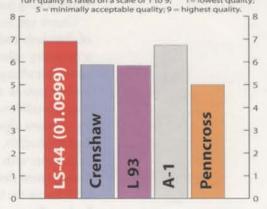
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USE READER SERVICE #26

### Course finances

## Building a bulletproof budget

#### TURN VULNERABLE LINE ITEMS INTO HARD-TO-CUT PROGRAMS

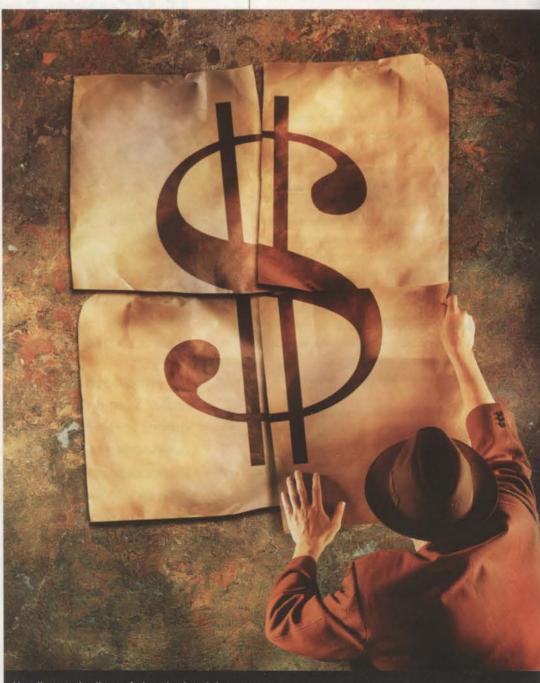
by DAVID WOLFF A ll right, so no golf course maintenance budget is completely bullet proof, but trying a different approach can make it tougher to cut a budget and more likely to get what's needed.

Gary Grigg, a retired certified golf course superintendent living in Homosassa, Fla., has been educating superintendents about program-based budgeting for several years. Grigg is a 31-year member and past president of the Golf Course Superintendent's Association of America. Currently, he's vice president and agronomist with Grigg Brothers Corp., an Idaho-based fertilizer company. The method he developed makes it more difficult for boards of directors or owners to trim line items from the maintenance budget randomly. By simply cutting money, they're eliminating or drastically scaling back entire programs.

Greens are an example. Broad-based cuts of chemicals and manpower might seem like a necessary solution during tough financial times, but what goes unnoticed with arbitrary budget cuts is their significant impact on course conditions. Ultimately, when the quality of greens slips, the superintendent will be held responsible, even though he's being asked to do more with fewer resources. However, if management determines it wants the greens at 10 feet on the Stimpmeter, a program-based budget dictates what it will take to provide those conditions. Line-item reductions of chemicals or labor mean lowering expectations for course conditions.

### Set course standards

Most board members and owners are professional business people, and the superintendent must approach the budget in a business-like manner, according to Grigg. He suggests forming a small committee con-



Line-Item reductions of chemicals or labor mean lowering expectations for course conditions.

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### course finances

sisting of the superintendent, golf professional, green chairman, board president and a representative of the women's association.

"Walk the entire course with the committee and look at everything – greens, tees, bunkers, fairways, roughs, native areas, woods, even flower beds – and set standards for each area," Grigg says. "What green speed is desired, and what are the mowing heights and frequency of cut for each surface? Does the club want its bunkers tight and firm, or loose and fluffy? How many weeds or insects will they tolerate? The superintendent has to know what the club expects and, most importantly, get these standards in writing."

The key to a program-based budget is having agreed-upon standards and then relating them to the budget. Line items such as aerification, topdressing, brushing, mowing, fertilizing, fungicide applications and rolling become part of a program.

"If you are asked to reduce your chemical budget, then what part of the program do they want to eliminate and how will this reduce the standards?" Grigg says. "It's harder for your employers to argue with you if you have identified the facts. Outline every program and its associated costs. They must understand that cutting money means cutting programs."

### Other program elements

The executive summary should address three other elements. First, develop an organizational chart. This helps those who don't know the business understand how a maintenance staff is organized. It shows who reports to whom and who is responsible for each area. A staffing chart shows how many personnel are needed to carry out the programs in the plan. Employee salaries or hourly wages, bonuses and anticipated raises should be included. Everything should be included because the more information the better.

Second is capital equipment. A typical replacement budget should be 10 percent to 15 percent of the total annual investment in equipment. If new purchases are to replace equipment that should be rotated out because of old age, then maintenance records need to be shown to support the case. One should put together a 10-year acquisition plan on a spreadsheet. Once that plan is approved, with a few modifications each year, equipment is much easier to obtain and the process becomes automatic.

Third, most facilities budget for continuous improvements to the course. These projects should be part of a master plan with a complete cost analysis. The better the plan, the more likely these improvements will be approved by the board or owner.



Program-based budgeting can be applied to any level of operation, and there are course standards and realistic numbers associated with achieving them.

### Professional presentation

Grigg frequently talks to superintendents about program-based budgeting.

"At one point in my career, I worked for a management company that operated 16 golf courses," he says. "Each course was maintained at a different level. However, the same situation existed at each facility: The members wanted their course to be the best it could be."

Grigg says program-based budgeting can be applied to any level of operation, and there are course standards and realistic numbers associated with achieving them.

"Unfortunately, at many clubs, the board

says money is tight and starts hacking up the budget," he says. "If this method is used, the superintendent opens up the business plan and asks what standards can be adjusted. It's more difficult to amend programs than take out money."

Budgeting is also an education process. Boards and owners need to understand everything costs money, and if they take something out, something else has to suffer.

"Most people really don't know or understand our business," Grigg says. "If the managers or owners aren't happy and want the course to be better, the superintendent has to be able to show them how much it costs to get what they want. If they can't afford those standards, they will have to buy into where the cuts will be made. Maybe they can't have champagne on a beer budget."

There can be other consequences for golf course superintendents.

"Too often, when a budget gets hacked up by randomly reducing line items, golf course conditions suffer, and the superintendent loses his job," Grigg says. "Club officials say they're going to hire a superintendent to take the club to next level, but this guy can only be as good as the amount of money he has to work with."

The more knowledgeable a superintendent is about the business side of a golf course, the better his chances are for success.

"The next time a superintendent is asked to take a percentage out of the budget, he should ask, 'From which program do we take it?' and 'Here is how that is going to affect course standards," Grigg says. "Management at the course will find it much more difficult to eliminate or change programs than it is to simply write a smaller figure on the budget document."

#### Case in point

When certified golf course superintendent Lou Bettencourt arrived at Rolling Road Golf Club in Cantonsville, Md., in October of 2000, he faced a challenging situation. The annual maintenance budget had been set at \$528,000, and the membership was upset because the final number was \$578,000. On the other hand, the club fell behind its competition and wanted to improve course conditions.

This was Bettencourt's conundrum: how to raise quality, which takes money, with a board and membership frustrated by budget overruns.

Grigg visited Rolling Road and sat down with Bettencourt to find a solution.

"Gary told me I was approaching the problem the wrong way," Bettencourt says. "He told me I needed to provide more detailed information about the costs associated with the club's expectations. Sometimes superintendents can be their own worst enemy. They know what it takes to deliver different levels of quality, but they can't communicate this information to a board or membership that doesn't understand golf course management."

In June of 2001, Bettencourt did something unusual for Rolling Road. He began formulating his budget for the next year. The first step was a meeting with the green committee to determine expectations for course conditions. Next, Bettencourt developed a budget that would deliver these results.

"I broke down every piece of the puzzle and created programs for greens, tees, fairways and roughs," he says. "I set the aerification and topdressing schedules, the amount of fungicide and herbicide we'd use, and how we would address insect problems. I pinned down every cost associated with each program, including labor."

When Bettencourt reconvened with the

Augusta National look. We make sure we manage their expectations according to their budget. It's unrealistic for some clubs to think they can walk-mow greens and tees and triplex fairways with three people."

IGM backs up its recommendations with time studies. Zakany says the greatest fluctuations in any maintenance budget are because of labor costs.

"Let's say it takes four hours to mow

"If the managers or owners ... want the course to be better, the superintendent has to be able to show them how much it costs to get what they want." – GARY GRIGG

committee in September, the budget was essentially set.

"The committee knew I wasn't just grabbing numbers out of the air," he says. "Each program had a breakdown of every associated cost. Once they agreed to the pieces, the total budget fell into place."

The maintenance budget totaled \$625,000 that year. This year it's \$978,000.

"One reason for the nearly doubling of the budget in the four years I've been here is that the club had fallen behind in terms of course conditions," Bettencourt says. "However, the biggest lesson for the board and the membership was that they couldn't have the conditions they wanted unless they were willing to pay for them. By following the plan for each program, I've never gone more than one percent over budget."

Superintendents must develop business and communication skills to help with budgeting.

"It's my job to communicate to the club and help the members understand what it takes to manage a golf course," Bettencourt says. "If they can't afford everything they want, they have the information about what programs they can cut. It's not my golf course, and the members will enjoy the course as much as they are willing to invest in it. Program budgeting has given me a lot of credibility."

#### Maintenance alternative

Certified golf course superintendent Scott Zakany is the executive vice president of International Golf Maintenance in ChampionsGate, Fla. IGM provides contract maintenance services to 85 golf courses in 13 states. Facilities include municipal, private, daily fee and resort at all budget levels.

"We try to deliver realistic numbers for realistic expectations," Zakany says. "Some clubs have to realize they can't afford the greens every day of the week," he says. "That's 28 man-hours. Fairways are mowed three days a week for eight hours a day, and that's 24 more hours. We go through every function on the golf course like this. Then we add up all the hours and divide the total by 2,080 (40 hours a week, 52 weeks a year). Next, we add the equipment technician and supervisory personnel. Now we can tell the club what the labor cost will be to maintain the course at the level they want."

IGM then looks at horticultural supplies. Material calculations are based on the number of irrigated acres and application frequency. This sets the cost of fertilizer and other products.

"I'll look at a particular golf course and see that it's disease prone," Zakany says. "I know that during the summer months I'm going to have to spray preventively with fungicides for three or four months on 21-day intervals. I know the acreage, and that tells me what the fungicide budget will be. We add the amounts for every product and put the results on paper. Now I can show management what it will cost to give them what they want. And sometimes they have to be careful what they ask for."

IGM's responsibility is to find the most cost-effective alternative.

"Our solution could cost the club less," Zakany says. "They may be spending \$100 an acre on a product when they could have done just as good a job with a different product that costs \$50 an acre. There can be huge variables in price depending on who you buy from. All of this just goes to show there are different ways to skin a cat, it just depends on who is doing the skinning." GCN

David Wolff is a contributing editor based in Watertown, Wis. He can be reached at dwolff@charter.net.

### Seed update

# A better grass

### PERENNIAL RYEGRASS VARIETIES RESISTANT TO GRAY LEAF SPOT PROVIDE SUPERINTENDENTS WITH MORE CHOICES FOR FAIRWAYS



The Palmer IV variety of perennial ryegrass that has high levels of resistance to gray leaf spot now is available on the market



hen Lakewood Country Club in Rockville, Md., reopens next spring following an almost-BLAIS two-year renovation project, its tees and fairways will be sporting bentgrass rather than the perennial ryegrass the course had used for many years. The main reason for the turf change is the absence of a perennial rye variety that was resistant to gray leaf spot, a fungus that has wreaked havoc on many perennial rye courses for the past 15 years.

"Had it been available, we would probably still be a perennial ryegrass course," says Chris Ayers, superintendent of the private, 18-hole transition-zone course located just outside Washington.

Fewer transition-zone courses are using perennial ryegrass these days because of gray leaf spot, which can quickly wipe out a stand of perennial ryegrass, according to Terry Buchen, president of Golf Agronomy International, a Williamsburg, Va.-based turfgrass consulting firm. But Ayers and fellow superintendents now might have the option of returning to one of their favorite grasses, thanks to the work of Rutgers University researchers led by Drs. William Meyer and Stacy Bonos.

The Paragon GLR, Repell GLS and Palmer IV varieties of perennial ryegrass recently hit the market, according to Bonos, an assistant professor of turfgrass breeding at the New Jersey school, which has been developing the grayleaf-spot-resistant varieties since 2000.

'The germplasm is a major step forward in bringing perennial ryegrass back into favor with golf courses," says fellow Rutgers professor Bruce Clarke.

### Root of the problem

Gray leaf spot is a strain of the same fungus that causes rice blast, one of the major agricultural diseases in the world, according to Clarke. On perennial ryegrass, it starts as small, oval leaf spots that are yellowish-brown on the margins with a tan center. When humidity is high, the leaf spots become felty with gray spores, which the wind can transport long distances.

"It is a major problem on golf courses because they overseed with perennial ryegrass and the seedlings are very susceptible," Clarke says. "It is about as quick as pythium blight in killing turf. It often starts in the roughs and will move via wind and rain into fairways, which become strongly affected as well, especially if they are oveseeding, watering and fertilizing the new seedlings.

"The fungus likes high moisture and humidity," he adds. "The perfect temperatures are nights in the 60s and days in the mid- to upper-80s. You tend to see it from late July through October. The worst time is in August and September when courses are overseeding."

The fungus began attacking annual ryegrass in the 1970s, according to Bonos and Clarke. Dr. Peter Dernoeden, professor of turfgrass pathology and weed management at the University of Maryland, first noticed it on perennial ryegrass in 1985. Pennsylvania State University professor Peter Landschoot identified it as gray leaf spot in 1992. It soon spread throughout the country, with major epidemics occurring in 1992, 1995 and 1998. Primarily a problem

at transition-zone courses east of the Mississippi, the fungus has been reported in Kansas and Nebraska and identified as far west as California. It also has been reported as far north as New Hampshire and as far south as Georgia.

ProSeeds Marketing is working with the Northern California Golf Association on a series of gray-leaf-spot-resistant perennial ryegrass trials in San Diego, Sacramento and Pebble Beach, according to Craig Edminster, ProSeeds marketing director.

"For the last six years, the focus has been on the mid-Atlantic region, however, you have gray leaf spot all over right now," Edminster says. "There is a lot of rice production in California, and *Pyricularia grisea*, the fungus of gray leaf spot, is a problem on rice, so there's a huge host in California. Two years ago no one ever imagined it would be a problem in California."

ProSeeds is marketing Palmer IV and will soon be introducing several additional grayleaf-spot-resistant perennial ryegrasses.

Seed Research of Oregon technical agronomist Skip Lynch says Dernoeden once was asked how damaging a gray-leafspot outbreak could be.

"He called it the ebola of perennial rye, which speaks to the rapid destruction it can cause," Lynch says.

### Dealing with it

Not only does gray leaf spot spread easily, it can cause extensive turf loss and requires preventive measures. Ayers began seeing gray leaf spot problems on his course in 1995.

"We learned a little more about it every year," he says. "With different rates and different products, we tried to prevent it. We got better and were able to minimize the damage. But we felt like we were always going to be susceptible to it. Throughout the years, we took out the ryegrasses in our rough mix. It seemed like the gray leaf spot always started just outside the irrigated rough and crept its way into the shorter grasses. We started applying products to the rough to keep it from getting into the fairway. It was getting to be a pretty expensive proposition with no 100-percent guarantee that we could keep it down.

"When we made the decision two years ago to renovate the course, there was some slight mention that these [gray-leaf-spot-resistant perennial ryegrass varieties] might be coming down the road," he adds. "But there was no guarantee. With the time and effort we were putting into this renovation, and considering our location in the mid-Atlantic, switching to bentgrass seemed like the right thing to do."

Gray leaf spot also can require superintendents to use large amounts of fungicide for control, which led Ayers and other superintendents to switch to bentgrass. Still, the decision to switch from perennial ryegrass was a tough one for Ayers and other superintendents in the transition zone who made similar decisions.

"There is no perfect grass," Buchen says. "One that does well in the summer won't do well in the winter and vice versa. Zoysiagrass, Bermudagrass, bentgrass, ryegrass or bluegrass are the choices in the transition zone. Perennial ryegrass does really well because it can handle the heat and humidity in the summer, but stays green all winter."

Other than gray leaf spot, perennial ryegrass has a lot in its favor, according to Ayers.

"Playability, quick germination and appearance were always positives," he says. "You didn't have to collect clippings on fairways when mowing, so it could be a labor-saving grass. Some of the *Poa annua*-control products allowed us to control *Poa* in the perennial ryegrass fairly easily. It was a durable grass and could withstand cart traffic. It was an all-around good grass for us."

#### New developments

Despite all the positive aspects of perennial ryegrass, all commercial varieties of it were susceptible to gray leaf spot, which led re-



searchers on their quest for resistant grasses.

"If you have a susceptible variety, it will take it right down to the ground," Bonos says. "It generally attacks seedlings from a week to four weeks old."

Rutgers researchers first noticed gray leaf spot at its research farm in 2000. They found a few germplasm sources that were





### seed update

resistant, selected them, increased their numbers and intercrossed them.

"The next year, we got another infestation of gray leaf spot and were able to see if the selections had improved resistance to gray leaf spot," Bonos says. "They did. Every year since then, we have been getting gray leaf spot and have been able to select for improvements every year."

The resistant selections contain a specific gene or set of genes that confer resistance.

"We are still unsure whether it is just one gene or a few genes," Bonos says. "But based on the classical genetic research we have done so far, the resistance does not seem to depend on a large number of genes."

The fact that resistance likely involves multiple genes is important as well.

"If the resistance is dependent on just one gene and then the fungus race changes, which is known to occur frequently in rice, the resistance will easily break down," Bonos says. "If it is dependent on more than one gene, the resistance should theoretically last longer. So far, we have not seen any breakdown in resistance or race change in the fungus. That is not to say that it won't happen. We are incorporating a large diversity of germplasm sources in our selected populations as a strategy to try to maintain a more stable resistance.

"If everything keeps going the way it has,

you can plant perennial ryegrass again," Bonos adds. "But you cannot predict what pathogens might do. If the fungal race suddenly changes, you are back to square one again. We are trying to prevent that from happening by selecting from a large germplasm base."

### A perennial return

With sufficient supplies of gray-leaf-spotresistant perennial ryegrass becoming available thanks to research, Bonos and others expect the grass to become a favorite at transition-zone facilities again.

Turf Merchants is marketing Paragon GLR. And ProSeeds' Palmer IV is on the market and will be available in large commercial quantities in 2005, according to Edminster. Other ProSeeds gray-leaf-spot-resistant products coming to market soon include Panther GLS, Repell GLS, Prelude GLS and Palmer GLS (available in 2006-07).

"We apparently have the whole package with these varieties," Edminster says. "They still have great turf quality, yield high numbers of seeds, are all dark green and have multiple-pest resistance."

Lebanon Turf Products has three new perennial rye varieties with gray leaf spot resistance it plans to introduce during the next two to three years, according to turfgrass marketing manager Murray Wingate. Seed



Perennial ryegrass with high resistance to gray leaf spot is being produced in fields, as workers spot spray the grass.



Research of Oregon has six varieties on or coming to market that were bred for gray leaf spot resistance, including SR4220, SR4550 and Peregrine.

"Those three varieties are also very salt tolerant," Lynch says. "You almost never plant perennial rye straight. It is usually part of a blend. A good blend can have gray leaf spot resistance, salt tolerance and attractive color."

Ayers says he will still use some ryegrass at Lakewood.

"In our area, it is the best first-cut of grass off the fairway," he says. "If the gray-leafspot-resistant ryegrasses come on the market, we'll use them in that area. The driving range tee, because of perennial rye's quick germination, could be switched to perennial rye down the road. The fairway on the range itself could also someday be perennial ryegrass.

"It has advantages," Ayers adds. "But, as anyone who has grown grass in the transition zone knows, there is no silver bullet among fairway grasses. Within 10 miles of my course, you can find ryegrass, zoysiagrass, Bermudagrass and bentgrass courses. There is no perfect grass. You go for the one with the fewest evils."

Additionally, the gray-leaf-spot-resistant varieties could cost slightly more than traditional perennial ryegrasses.

"The premiums won't be huge, but there will be some, particularly if it can be proven that these are resistant in the field," Edminster says. "Documented gray-leaf-spot resistance will probably pull a premium in the marketplace. If I was a superintendent with gray-leaf-spot problems, I wouldn't mind paying a penny to a nickel more per pound for a perennial with gray-leaf-spotresistance compared with one that was susceptible." GCN

Peter Blais is a freelance writer based in North Yarmouth, Maine. He can be reached at pblais@maine.rr.com.

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### Equipment maintenance

# In tip-top shape

### CONSISTENCY IS THE TRADEMARK OF A QUALITY MAINTENANCE PROGRAM

DAVID WOLFF The equipment inventory at Blackhawk Country Club in Madison, Wis., is extensive, but a couple of items are certain to turn the heads of any superintendent or technician. There's a pair of Ford tractors that are more than 25 years old and a couple of Jacobsen Greens King triplex mowers nearing 14 years of age with between 5,000 and 10,000 hours of operation.

These pieces of equipment are still around not because Blackhawk is stingy with its budget or that superintendent Monroe Miller refuses to embrace new technology, but because these machines continue to perform because they've been maintained meticulously.

"We keep some pieces of equipment beyond what would be described as their normal useful life," says Miller, who has been Blackhawk's superintendent for 32 years. "I didn't trade the Greens Kings because they still have some useful life. We bored out the cylinders and installed oversized rings. And we bought a new engine for one mower because we felt the rest of the machine had enough value that we could justify the \$1,300 expense."

But the older equipment isn't expected to perform like its newer counterparts. Life is easier for these aging mowers because they aren't used in applications in which cutting units are lifted and dropped frequently. They mow par-3 fairways or make long runs on 420 yards of a par-5 fairway.

"We still mow fairways with a 1992 Toro Reelmaster 223-D, and it gives a beautiful cut," Miller says. "The cutting units on new mowers are almost exactly the same as the old ones. Of course, new machines are more comfortable and quiet, but all we're doing is mowing grass. Side by side, I can't tell the difference in the cut between the two mowers, and that's the truth. Old mowers suit me just fine if they perform. However, at some point, reliability becomes a factor, and they must be replaced."

But for any golf course maintenance staff, a quality equipment maintenance program will keep pieces working better and lasting longer.



