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CIRCLE NO. 136

Has anyone noticed the frequency with which certain architects make statements that demonstrate an almost incomprehensible lack of modesty and, worse, defy logic?

One architect sends out a press release declaring that his next design is another “masterpiece.” Another architect pats himself on the back for finding a way to spend time with his family and to keep designing great courses. Another architect states how he’s always dreamed of building one of the world’s great courses — and now “I finally have!”

Pre-Sept. 11, there seemed to be a willingness to let such statements pass. (Some apparently admired this brash grandstanding.) But now I must ask: Is this complete lack of humility acceptable in a country that’s trying to unite as a community?

It’s one thing for architects to pat themselves on the back when the courses in question are their own. But now some architects are stretching the meaning of restoration — and the truth pertaining to documented facts — to promote their own causes or justify peculiar alterations.

“We did just what Tillinghast would have done if he were here today” is a classically immodest declaration uttered daily to justify non-restorative work. Notice they never preface such remarks with something like, “We sure hope we did what Mr. Ross might have done in this situation;” or, “We researched what Mr. Raynor built, and this is our best guess at interpreting his style.”

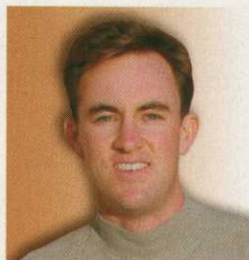
Prefacing these sweeping declarations would require two things that certain architects just don’t believe in: humility and information.

If you ask the architects who’ve done their research, you never hear them make such blanket statements about doing what the old guys would do if they were around today. Instead, you hear things like, “Well, Langford’s tendency was to do this;” or, “If I had to guess based on the photos, his writings and what is evident in the ground features, I’d suggest that this bunker was here to make the hole more interesting.”

Rees Jones recently declared his affection for Billy Bell’s design work — and then took a bulldozer to Torrey Pines. Last fall, former Golf Channel host Peter Kessler interviewed Augusta

Time to Come Down Off Your High Horse

BY GEOFF SHACKELFORD



FOR SOME
ARCHITECTS,
IT’S TOO HARD
TO BE HUMBLE

National’s consulting architect, Tom Fazio. Besides repeatedly referring to how he builds “great” courses during this hour of spin, Fazio stooped to a new low in explaining why the “so-called” Golden Age doesn’t measure up to today’s (his) brilliant designs.

While justifying changes at Augusta, Fazio pointed out to Kessler that the course really isn’t an Alister MacKenzie design. In Fazio’s mind, it’s more of a Bobby Jones work because MacKenzie wasn’t around much when it was built.

However, according to the club’s official history, *The Making of the Masters* by David Owen, MacKenzie made three prolonged visits to Augusta in July 1931, September 1931 (and into October) and March 1932, the latter when he supervised the last of the contour work on the greens. Of the third visit, Owen writes, “He remained until April.”

Back then, “The Doctor” didn’t have a client paying his jet fuel costs (actually, according to its own history, Augusta never paid up on MacKenzie’s entire fee of \$5,000, which was lowered from his normal \$10,000). He was taking the train to Georgia and didn’t have any other jobs in the area. We can surmise he wasn’t just jetting in to pose for some pictures, declare his brilliance, and leave things to Bobby Jones and Wendell Miller. So we’ll be conservative and guess that MacKenzie was on site for a total of 35 days. In today’s world of design by fax, that’s an eternity.

I wouldn’t say for sure what MacKenzie and other old architects would think about all of this presumptuous talk of what they would do if they were here today or what some people think they contributed. But I’d be happy to take an educated guess.

Geoff Shackelford’s latest book is The Golden Age of Golf Design. He can be reached at geoffshackelford@aol.com

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CIRCLE NO. 114

'Tis the Season for Freeze Injury

You should be thinking about it right now. Here's how it occurs and what you can do to prevent it

BY KARL DANNEBERGER

During the dead of winter, low-temperature kill or freeze injury concerns many superintendents. It's especially a worry to superintendents maintaining cool-season turfgrass in the northern United States and warm-season turfgrass in or near the transition zone.



Freeze injury occurs at temperatures at or below 32 F. To withstand freezing temperatures, turfgrasses acclimate by hardening, a process that begins in late summer or early fall. As turf leaves harden, their ability to withstand lower temperatures peaks in December and January.

Certain research projects have reported the LT_{50} (the lethal temperature at which 50 percent of the plants are killed). To determine the LT_{50} , researchers study the plants in their hardest stage and incrementally lower the temperature over time until the LT_{50} is reached.

When we talk about LT_{50} , we're not talking about air temperature. Instead, we're talking about the temperature around the growing point, whether at a rhizome or the leaf. For example, the temperature of a putting green under snow cover would approach freezing (32 F) while the air temperature above the snow cover might be several degrees below freezing — even lethal.

Contrary to what you might think, snow cover moderates the soil temperature around the growing point like

a blanket providing protection. Last year, for example, winter temperatures in the southeastern United States were cold enough to kill bermudagrass. In many areas, however, bermudagrass escaped injury because of snow cover.

Whether turfgrass avoids freeze depends on the location of the growing point. Plants with rhizomes deeper in the soil are better equipped

to avoid low temperatures than plants that only have crowns, since soil temperatures tend to moderate and don't drop as low as air temperatures.

Plants that have rhizomatous growth avoid low temperatures at the surface better than plants that reproduce only from crowns. The location of the crown is also important. The crown region of perennial ryegrass, for example, tends to sit higher than other cool-season turfgrasses, exposing it to a greater temperature extreme.

Resistance to freeze injury varies considerably among turfgrasses (Table 1). Creeping bentgrass and Kentucky bluegrass growing in the United States have little associated risk to freezing injury, while perennial ryegrass and

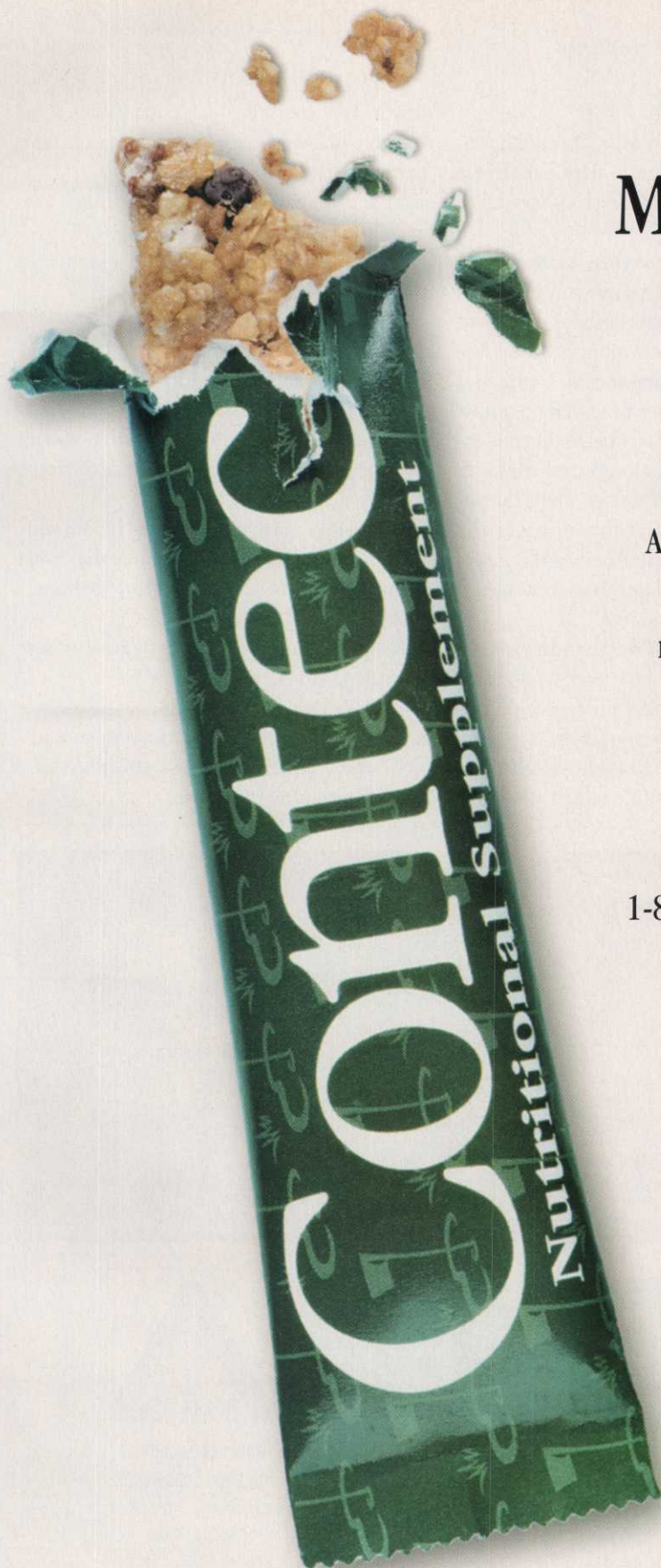
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Editor's note: Golfdom introduces "It's Academic," a new column that discusses technical turfgrass issues pertinent to your operation. The column appears bimonthly and is written by distinguished turfgrass professors. If you would like one of our authors to discuss a specific issue, you can e-mail Golfdom Editor Larry Aylward at lalward@advanstar.com with your idea.

Table 1

Freeze Stress Tolerance of a Selected Group of Turfgrasses

TURFGRASS	RELATIVE KILLING TEMPERATURE (F)
Creeping bentgrass	-31
Kentucky bluegrass	-6 to -22
Perennial ryegrass	5 to -3
Annual bluegrass	5
Bermudagrass	19
St. Augustinegrass	23



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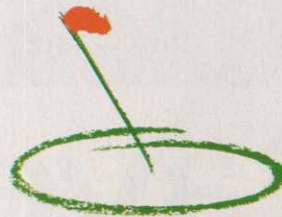
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annual bluegrass are potential candidates to suffer injury. Bermudagrass often risks freeze injury when it is grown north of where it's already adapted.

Contrary to what you might think, snow cover moderates the soil temperature around the growing point like a blanket providing protection.

So when is freeze injury the greatest concern? Turfgrasses begin to break winter dormancy during late winter or early spring. It is at this time that the greatest potential for freezing injury can occur. Turfgrasses are at a stage where the potential for injury is the greatest between the second and fourth weeks in February.

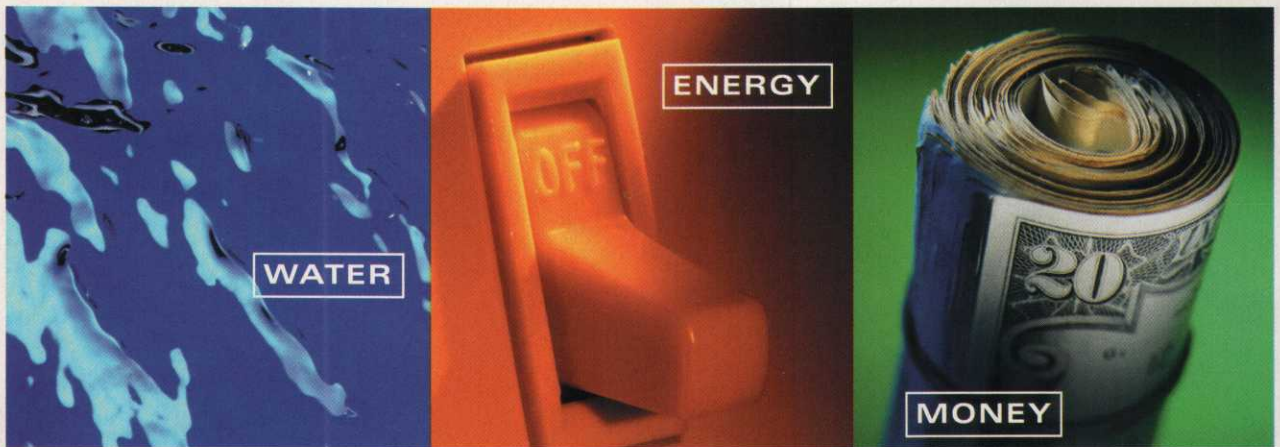
A likely scenario for freeze injury occurs during middle to late February when temperatures rise and the turf starts greening. If excessive moisture is present, a drop in temperature can cause rapid freezing around the crown (or growing point), which results in

death. It's possible to have multiple freezing/thawing cycles that can cause extensive freeze injury. In fact, this scenario killed considerable annual bluegrass and perennial ryegrass in the Northeast last winter.

To minimize freeze injury, superintendents should:

- maximize the hardening process;
- remove excess moisture from the crown and the surrounding site;
- avoid lush, succulent growth going into winter (succulent growth results in thin-walled, hydrated cells that are more at risk to freeze injury);
- consider a heavy topdressing before winter, which may provide protection to the crown from exposure to air temperature extremes; and
- install proper drainage in areas where water tends to stand.

Danneberger is a professor of turfgrass science at The Ohio State University and Golfdom's chief science editor.



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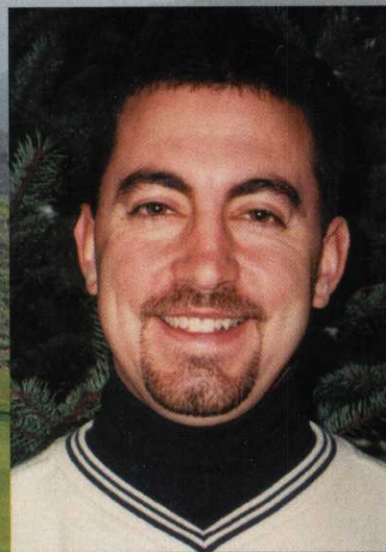
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*- Tim Glorioso, Superintendent
The Toledo Country Club - Toledo, Ohio*



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*- Morris Johnson, Superintendent
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In and Out of House

Two classically designed golf courses take drastically different approaches to bunker restorations – and both vastly improved their layouts

BY SHANE SHARP

Let's face it: Bunkers aren't the most romantic element on golf courses. But when it comes to golf course maintenance, bunkers are just as important as their sexier cousins, the greens and fairways. Think about the visual appeal of a well-designed course — standing on the tee box, you gaze out on a sea of stark white, finely sculpted bunkers that appear to hover along the horizon like a surreal painting.

Sure, bunkers may not make or break a golf course, but well-crafted bunkers with crisp lines and proper drainage can be the difference between a good and a great layout. Midland Hills CC in Roseville, Minn., and

Problem

Bunkers worn down by weather and play need to be restored.

Solution

Two courses take radically different paths. One completed the renovation in-house over two years, while the other hired an outside contractor to get it done as quickly as possible.

Crystal Downs CC in Frankfort, Mich., are two classically designed golf courses that used two drastically different approaches to restore their bunkers to their original form and vastly improve their layouts.

The problems

Scott Austin, certified superintendent of Midland Hills, is the first to admit that maintaining Seth Raynor-designed bunkers is no easy task. Severe slopes and complex contouring not only make mowing a challenge, but they also intensify the impact of erosion and gravity.

Midland Hills opened in 1919, and basically remained untouched until Austin and the membership decided it was time for a change. By the late 1990s, every bunker on the course was worn from the effects of time and weathered by the elements. Bunkers weren't draining properly, their clay tiles had been plugged up or broken, and their original lines had long since receded into the landscape.

Mike Morris is the certified superintendent at Crystal Downs, a classic Perry Maxwell and Alister MacKenzie-designed layout

with about 80 bunkers. Because Maxwell and MacKenzie favored less severe bunkers, Morris' task was somewhat less daunting.

The sand in the bunkers needed to be replaced, but Morris and his staff decided it would be the ideal time to restore the bunkers to their original form. Since the bunkers fit the topography of the land, Morris and his staff determined that a bunker restoration project would require minimal construction.

The solutions

For Austin and his staff, there was never an ounce of hesitation — Midland Hills would outsource the bunker restoration project to a contractor. According to Austin, time was of the essence, and money was no object.

"At our club, we just needed to get them done," Austin says. "We didn't have the equipment, time and skills available to do it in a reasonable amount of time."

Austin hired the Hartmen Co., a golf course remodeling firm based in Victoria, Minn. Austin knew Hartmen had experience in restoring Raynor courses, and that it featured one of the best shapers in the business in

Tom West. Before getting underway, Austin and West went to visit a number of other Raynor layouts throughout the Midwest to collect data that would help them with the project.

"It took three days, and we walked each course and took photographs," Austin says. "We saw what the style was. At the Chicago GC, the bunkers haven't even been touched since the course was built. It was like going back in time."

Time, however, was not something Austin had to waste. With nearly \$400,000 to spend on the project, his club's membership wanted the project done fast and done right. West used old aerial photographs of the golf course to gain an understanding of the original bunker design. The project got underway in late April 2000 and was completed by late July.

Morris faced a different problem. Financial constraints meant the bunker restoration was either going to be done in-house or not at all. Moreover, Morris said the membership did not want any significant disruptions in play, so the project would have to be approached one

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Bunkers are as important to golf course maintenance as their sexier cousins, greens and fairways.

MIKE KLEMM