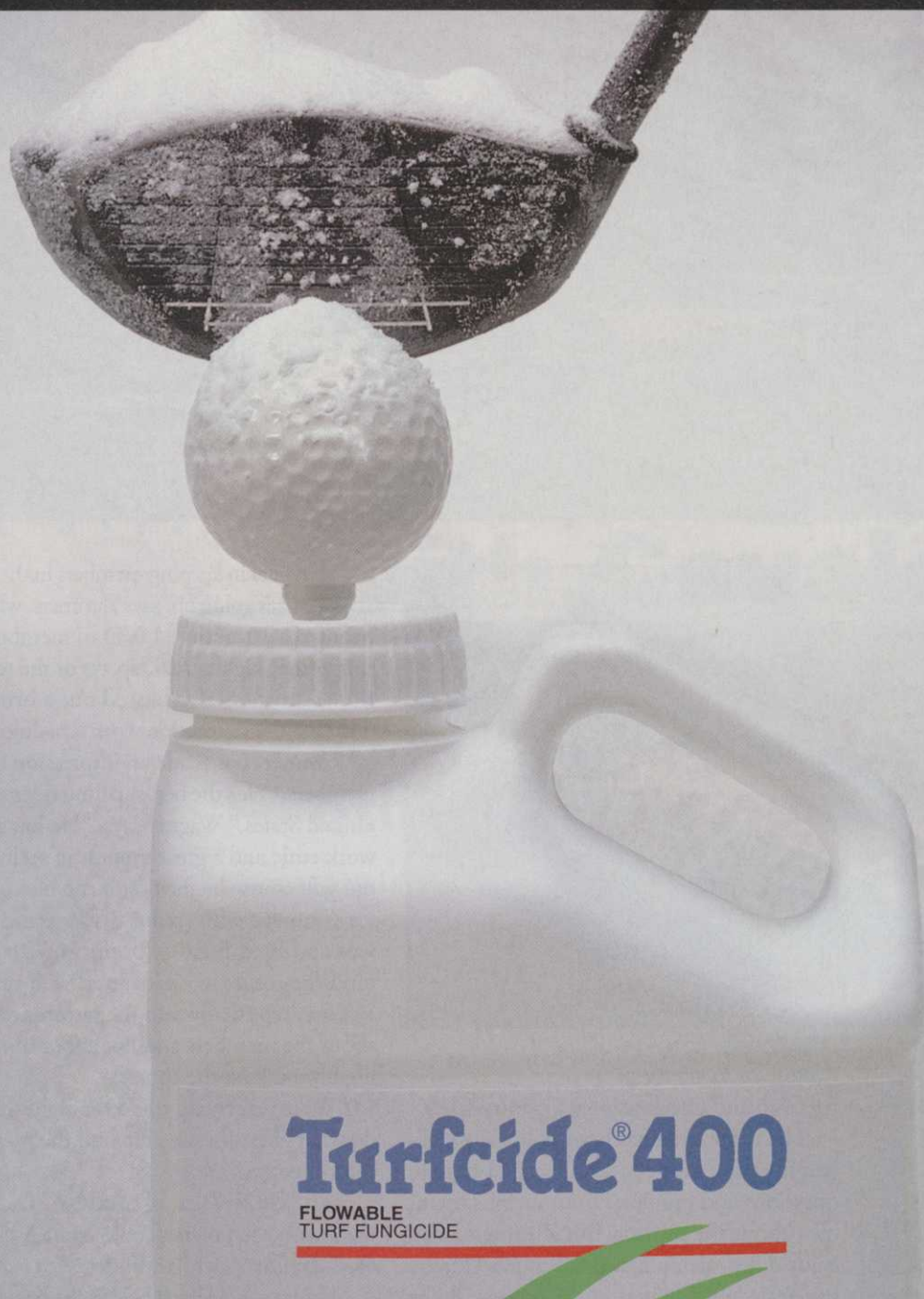




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Oakmont's Overhaul



The church pews bunker (below) received new sand as part of its restoration. The completed bunker is above and stretches a few pews longer in each direction.

Continued from page 50

try Club and Congressional Country Club.

The restoration has been politically challenging for Zimmers, who has had to field questions and opinions from various members about the project. But Zimmers, who studied turf maintenance at Rutgers University, realizes it's all part of the process. So he does his best to answer questions with a smile on his face and a politeness in his voice. "I've had people come up and say things like, 'John, you're making this bunker too deep. How's it going to play?' I tell them, 'I certainly appreciate your opinion, and I'll share it with the committee,'" he says.

Communicating details of the restoration

has been vital in keeping members in the know about what's going on, says Zimmers, who distributed a 10-minute DVD to members last spring that highlighted aspects of the restoration. Zimmers also passed out a brochure detailing the restoration work schedule.

Zimmers has made an impression on the members. "He's the best superintendent in the United States," Wagner says. "He has a great work ethic and a great interest in seeing that our golf course be the best it can be."

Zimmers, who credits his assistants Hurwitz and Brett Bentley for the important behind-the-scenes work involved with the project, has repeatedly said the restoration is all about the members and not about him leaving his mark on the course.

"We're just trying to do the right thing ... do what's best for the club and the membership," he says.

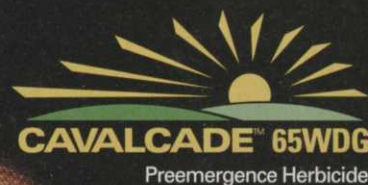
And, Mr. Fownes, of course.

"I wish Mr. Fownes could come back for a day," Zimmers says. "I wonder what he'd say."

Wagner and Marzolf believe the boss would be pleased.

"I think Mr. Fownes would find the effort well worth the investment," Wagner says.

"I've got to believe that if Mr. Fownes were here, he'd be doing exactly what we're doing," Marzolf adds. "All we want to do is pass this golf course on to the next generation. Hopefully, we'll hand it off a little better than we found it." ■



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Mr. Sand Man

STORY AND PHOTOGRAPHS BY

GEOFF SHACKELFORD, CONTRIBUTING EDITOR

Nobody crafts a bunker better than Jeff Bradley, the shaper of the Coore-Crenshaw design team

Jeff Bradley's status as golf's bunker guru became official during a recent project when the 38-year-old member of Bill Coore and Ben Crenshaw's design team was on a project site with Coore and his associate Dave Axland.

The three were discussing design details when the project superintendent and a visiting turf student arrived. Introductions were made, but only when he met Bradley did the turf student light up.

"Oh, Mr. Bradley, I've admired your work," the student said, oblivious to the well-regarded Coore or Axland.

Shapers are almost never recognized for their work, even though most architects will tell you that their work depends on those who sculpt the soil into place. As contractors became more prevalent, the shapers loyal to certain architects have become less common. But with Coore and Crenshaw's old-style approach, their talented team hearkens back to the Alister MacKenzie era, where

a devoted band moves from project to project, with each member specializing in certain tasks.

Bradley's role became defined not long after working on the maintenance crew at Hot Springs Country Club, where a mid-1990s renovation by Coore and Crenshaw introduced them to the man who would become their bunker finisher. Or as Bradley's own Web site and independent consulting business self-proclaims — the "bunker guru."

"Bill [Coore] was looking for a guy like me — artistic, creative, someone he could mold and who didn't know anything else about golf," says Bradley, who lives in Phoenix with his wife Ronda and two children. "It was divine intervention. Really, it was a miracle for me at the time and it probably saved my life."

Bradley was struggling at the time,

Continued on page 56

Jeff Bradley is the self-proclaimed "bunker guru." One of his specialties is the rugged look, as the way this bunker appears.



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Mr. Sand Man

Continued from page 54

but as then-Hot Springs superintendent Rusty Mercer says, "Jeff has come as far in life as anyone I know."

By crafting the rugged, lacey-edged bunkers on revered Coore and Crenshaw designs like Cuscowilla, Notre Dame, Chechessee Creek, Talking Stick, Austin Golf Club, East Hampton, Friar's Head, Old Sandwich and the soon to open Bandon Trails, Bradley's touch has become synonymous with a Coore-Crenshaw design.

"Jeff has an artistic bent about him and we know that he sees things that you couldn't describe to someone over a period of time," says Crenshaw. "He just sees little twists and turns before he creates them. He knows how to capture that feeling of randomness and that look of utter abandonment. It's art, and you have to get over a feeling that you're inhibited. He's like a painter who's not afraid to try something."



Before

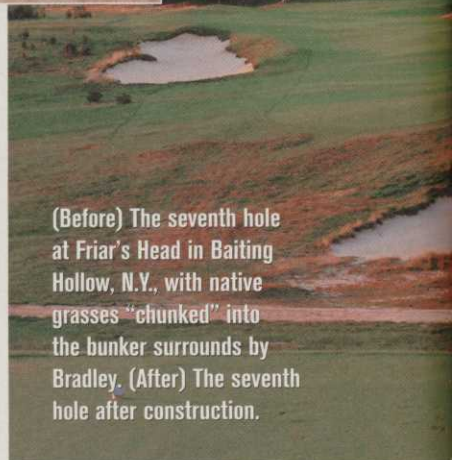


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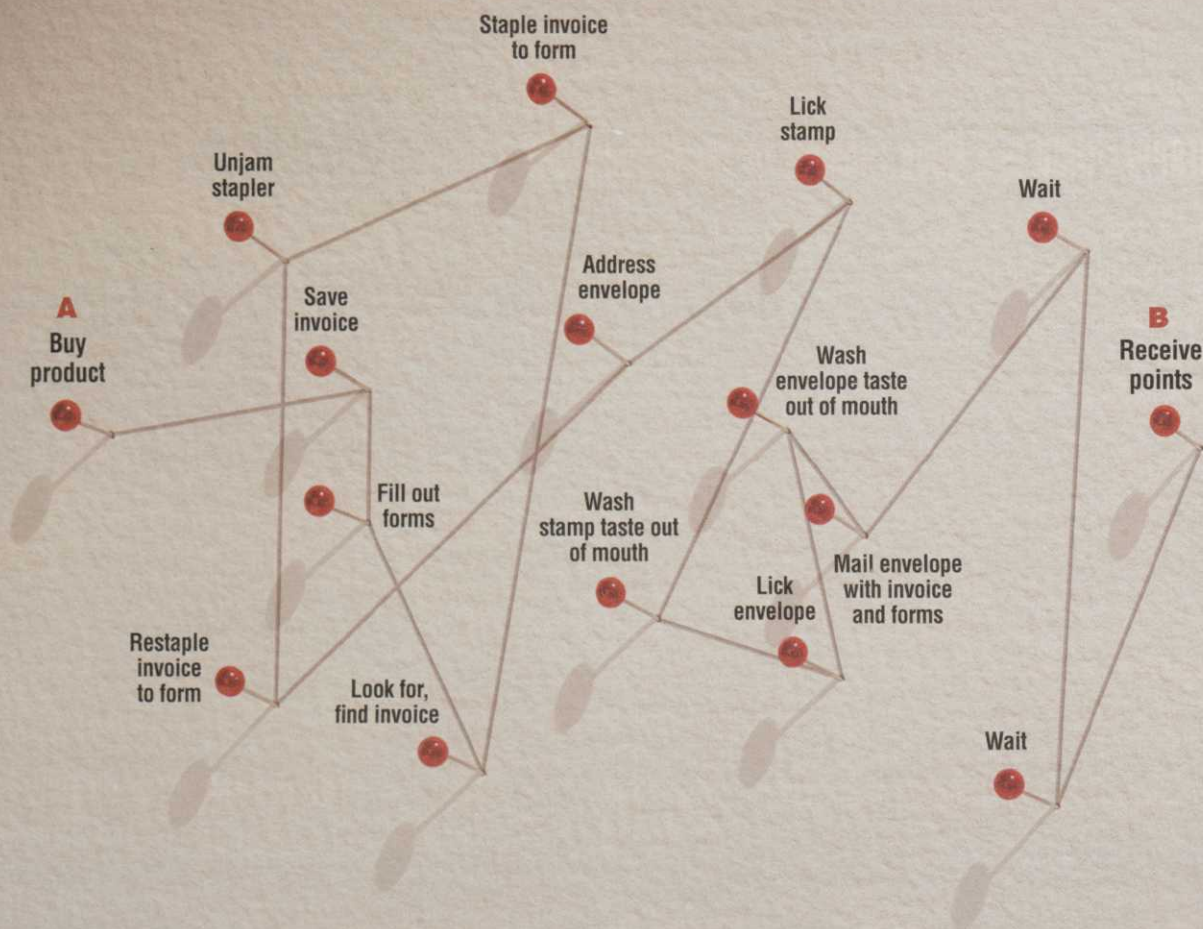
Bradley's education began at Hot Springs under the tutelage of Axland, a Coore-Crenshaw associate. After that project, Axland brought Bradley to the firm's epic Sand Hills project, where Bradley made \$7 an hour doing grunt work and the occasional bunker enhancement.

"Bill said he felt Jeff could be our bunker man," says Crenshaw. "He felt that he would work well with the mix of people that we had. And it's turned out that way."

It was not until the group's Cuscow-



(Before) The seventh hole at Friar's Head in Baiting Hollow, N.Y., with native grasses "chunked" into the bunker surrounds by Bradley. (After) The seventh hole after construction.





illa project that Bradley was turned into the full-fledged bunker finisher.

"Dave and Tom Beck both trained Jeff," says Coore. "And of course, now Jeff gets a lot of publicity. But we kid him about it all the time."

Bradley's role in the design process comes toward the middle and end of a project.

The Coore-Crenshaw team handles nearly all aspects of construction, including clearing, rough grading and finish work. Craftsmen like Tom Beck, Jimbo Wright, Jim Craig, Axland, Dave Zinkand, Rod Whitman, Dan Proctor and James Duncan often rough-in bunkers before Bradley does even more rough shaping.

Once Coore and Crenshaw have settled on a bunker location and the rough state of the hazard is in place to Bradley's liking, the outer area of the hazard is hydro-seeded. Only then has Bradley's task begun.

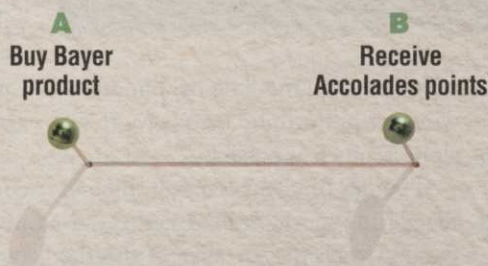
"What he allows Ben and me to do is deal in generalities," Coore says. "We can go out there and say, 'Jeff, let's talk about bunkers in this location.' Maybe a cluster, maybe one, we might talk about certain angles and how they might influence play. But we don't have to worry about the detail of it. There was a time we used to mark the lines for him, and now he just goes and creates the most beautiful bunkers."

Bradley uses painted lines and a shovel to handcraft the finished look that appears aged and eroded by water, wind and play.

In Northern climates, Bradley prefers to seed fescues, paint out lines and use his shovel months after the bunker edges have had a chance to evolve. In Southern climates the process differs by using 1 bermudagrass sod and a greater emphasis on drainage.

Bradley admits it's a "fluid process"

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The work of Jeff Bradley will not be lost in history like the shapers of long ago, says Bill Coore.

Continued from page 57

where he likes to let things sit for as long as six months before settling on the final shaping and the addition of the occasional native grasses before the sand is dispersed for play. His deliberate process has been aided by Coore and Crenshaw's project selectivity, which means working for clients who embrace the unique bunker style.

Still, the rugged look frequently is met with questions of whether it requires too much effort to maintain. Superintendents at Coore-Crenshaw courses laugh at that notion and enjoy the challenge of "selling" the rugged look to their golfers.

"They're much easier to maintain than the laser-edge look," says Mercer, who left Hot Springs for Lake Oconee, Ga.-based Cuscowilla Golf Club, a 1997 Coore-Crenshaw design ranked in *Golfweek's* Top 100 Modern Courses. "We do have to hand-rake the bunkers,

which we don't mind doing, but otherwise our philosophy is to leave them alone as much as possible."

Though Bradley's star will shine in the glaring spotlight of Oregon's new Bandon Trails project, there is also the new Shelter Harbor Golf Club, his first project apart from "the boys" (as the design team is affectionately called by Coore and Crenshaw).

A Michael Hurdzan-Dana Fry design in Charlestown, R.I., Shelter Harbor is a classic big-budget, high-end club built by Landscapes Unlimited. Fry, one of the design business's most passionate and open-minded practitioners, was looking to craft a unique look for Shelter Harbor.

"Our hope is that our courses constantly change and we don't become repetitious," says Fry.

After experimenting with a more irregularly edged bunker style at their her-

alded Hamilton Farm design in New Jersey, Coore suggested that Fry consider employing Bradley at Shelter Harbor. Fry met Bradley at Friar's Head, played golf with him, and a temporary partnership was born.

"He's one of the most creative people I've met," Fry says. "The bunkers look like they've been there 100 years."

Fry explains that Bradley first hydroseeds bunkers at a fairly light rate, and then lets them grow in for three to four months. He doesn't mind if rainstorms cause washouts — he likes when nature create its own edge. Then Bradley plants natives grasses from site.

"They look unbelievable a year after they're done," Fry says. "The overall edges are simple, but the lines are so intricate. It's a unique process to watch."

Fry says the look created by Bradley "takes the commitment of the superintendent after the fact and an understanding that the bunkers are a continuous evolution."

At Shelter Harbor, that task goes to industry veteran Ed Walsh.

"The job is not done even with the final plantings," Fry says. "Some plants will be added, some will come out. It's just an experimentation. It takes a guy with a mentality that it's going to evolve, and Ed understands that."

Though Bradley has started his own consulting business to work on other new projects or select restoration jobs (www.bunkerguru.com), he hopes to continue primarily with Coore and Crenshaw, where the feeling is mutual.

"You think about those guys who did those old lacey-edge bunkers for the master architects," Coore says. "Alister MacKenzie didn't go and cut those edges out. And who knows who did the bunkers for Billy Bell and so many of those other bunker creations. Those men who were so talented, so artistic, they're lost in history. No one knows who they were."

"The fact that Jeff Bradley is being recognized for his talents is just a good thing. Because those other guys didn't get recognized." ■

TURFGRASS TRENDS

INSECT CONTROL

Mole Crickets Succumb to Parasitic Nematodes

By Eileen A. Buss

Natural enemies can help reduce pest problems, golfer complaints and the frequency or amount of insecticide applications. But how to integrate them into an existing management program can be tricky. It pays to know their strengths and weaknesses.

In particular, insect parasitic nematodes offer several benefits to superintendents. These beneficial nematodes are living organisms, not Environmental Protection Agency-registered pesticides, so re-entry intervals don't exist, they can be applied near water, they're non-toxic to people and wildlife, they can be applied using standard spray equipment, and personal protective equipment (PPE) is unnecessary.

The Nematac S infects large mole cricket nymphs and adults and releases bacteria into the insect's blood, which kills the mole cricket.

But because they are alive, containers of nematodes should not be left in hot vehicles for hours, mixed into a tank and stored without agitation overnight or be frozen and then applied.

Anything that could kill a plant parasitic nematode, including nematocides, will likely kill beneficial nematodes. And as is true of all natural enemies, nematodes will not kill all of their hosts, so they do not lose their food source.

One nematode marketed against mole crickets (*Scapteriscus* spp.) in the southern United States is *Steinernema scapterisci*, or Nematac S. This nematode infects large mole cricket nymphs and adults and releases bacteria into the insect's blood, which kills the mole cricket. The nematodes eat the bacteria, reproduce inside the body, and infective juvenile nematodes leave the

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PHOTOGRAPH COURTESY: VW&R

A nematode application increased the mortality rate of mole crickets (above) for eight months at one golf course and 17 months at another, according to one study.

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PHOTOGRAPH COURTESY: EILEEN A. BUSS

A plexiglass arena used for behavioral experiments shows what a mole cricket tunnel looks like.



determined if the nematodes were still present and treated half of the hot spots again with Nematac S in October 2001.

Ten percent to 15 percent of mole crickets trapped before the 2001 nematode treatment were infected by *S. scapterisci*, indicating its persistence for at least 12 years. The 2001 application increased mole cricket mortality for eight months and 17 months at both golf courses. The percentage of mole crickets infected on treated plots equaled or exceeded pretreatment levels after about four weeks to eight weeks post-application.

Mole cricket mortality in untreated plots equaled the mortality in treated plots five months after treatment. Mole cricket numbers and infection levels were lower in 2003, possibly because of nematode suppression in 2002.



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Continued from page 59

body to infect other mole crickets in the soil.

Field crickets are the only known nontargets affected by *S. scapterisci*. Insecticides are usually targeted against newly hatched mole crickets, so Nematac S provides an option for controlling adults. My Ph.D. student, Kathryn Barbara, conducted the following studies to see how well *Steinernema scapterisci* fits into mole cricket management practices on golf courses (Barbara 2005).

Persistence and augmentation

These nematodes can establish after one application and spread into untreated areas in pastures through host movement in the soil (Walker and Nickle 1981). But no one knew how long a population could survive on golf courses or if a second or augmentative application was worthwhile.

Nematodes were initially applied to two golf courses in Gainesville, Fla., in 1988 and '89. We installed two linear pitfall traps on 10 fairways on each of the two golf courses (20 traps per course) near mole cricket hot spots,

Mole cricket monitoring

Soap flushes are used to determine the size, age, number and species of mole crickets present, which helps determine if or when to apply an insecticide. A typical soap flush involves mixing 1 to 2 tablespoons of liquid dish soap with a gallon of water, pouring it over damaged turfgrass, and observing which insects emerge. However, we suspected that soap could kill nematodes on a mole cricket's body, making superintendents think that the nematodes were not working.

So we tried to determine which drenching solution could effectively flush out mole crickets and not kill the nematodes or reduce their infectivity. In the lab, nematodes were mixed into solutions containing water (control), azadirachtin (Safer Brand BioNeem), citrus oil (Green Sense), garlic extract (Garlic Barrier), lemon dishwashing detergent (Joy), lemon juice (ReaLemon), insecticidal soap (Safer Soap), permethrin (Spectracide Bug Stop) or cyfluthrin (Bayer Advanced Lawn and Garden).

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