

# Amino Acids Absolute

## Products help superintendent solve effluent irrigation woes

BY DAVID JEWELL AND LARRY AYLWARD

### Problem

After 22 years of irrigating with effluent water, the fairways at White Pines GC began to die from a tremendous buildup of sodium in the soil, which also had a high pH.

### Solution

The use of amino acid products provides the turf with more energy to pull nutrients and water from the soil more effectively.

**T**he news from the lab was unfortunate. White Pines GC superintendent Steve Partyka was told his Bensenville, Ill., golf course's soil analysis revealed the dirt was so poor that it wasn't fit for growing turf.

It was 1998, and Partyka knew something was wrong. After all, 75 percent of the turf on the fairways of the 36-hole municipal complex was dying. But Partyka didn't expect news this bad.

The lab's soil analysis revealed the course's salt index was a whopping 330 pounds per acre. An index of 50 pounds per acre is considered high. So it was obvious to Partyka why most of the fairways were dying.

But what wasn't obvious was the source of the problem. "I figured it had something to do with the effluent water we used for irrigation," Partyka says.

### The problem

Before 1976, the fairways at White Pines weren't irrigated. The course only watered its tees and fairways with well water.

But in 1976, when Partyka was a part-time laborer at the course and his father, Ed, was superintendent, White Pines installed a new irrigation system for greens, tees and fairways with a watering capacity of 2,400 gallons per minute. (The previous system's capacity was 600 gallons per minute.) The course, however, didn't have enough well water to support the system. It had to use Bensenville's effluent water to sustain the new irrigation system.

Since 1976, the water irrigating the course has been a mixture of 80 percent effluent water and 20 percent well water. Partyka, who suc-

ceeded his father as superintendent of the course seven years ago and was his assistant 11 years before that, has monitored greens and tees for sodium buildup from the effluent water. He often treated the greens and tees with gypsum to leach the sodium out.

But Partyka never treated the fairways. After 22 years of effluent irrigation and little treatment, a major problem hit.

The summer of 1998 was warm and dry. The season's aridness had a terrible impact on White Pines' sodium-laden fairways. In late July and early August, the fairways began to die.

Partyka now knows it was because of the



Superintendent Steve Partyka heard about Nutramax Laboratories' products from several sources, including chatting online with superintendents.

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tremendous sodium buildup over the previous 22 years in combination with the dry summer. Consequently, the soil also had a high pH. Since there was no rain, there was no fresh water to knock back sodium counts. "So every time we watered, it was like spreading salt out there," Partyka says.

Partyka says he never figured the sodium count would climb so high on the fairways. He attributes that to not knowing the sodium count in the effluent water.

"The EPA doesn't regulate the sodium in effluent water," he says. "So the sodium count can be high one day and low the next. You don't know what you're getting from day to day."

Partyka, however, was not about to let the bad news get to him. He scoured the Internet for products to help grow turf in salt-saturated soil. His rootless turf needed help — fast.

### The solution

Initially, the obvious things to do were aerify the fairways and seed the bad areas. Then Partyka and his crew spread gypsum at a rate of 25 pounds per 1,000 square feet. But Partyka knew the fairways needed something else.

Partyka learned about Edgewood, Md.-based Nutramax Laboratories' products from several sources, including by chatting with other superintendents online. In the late fall of 1998, he attended an association meeting and stopped by the Nutramax booth. He chatted with a Nutramax representative and told him of his fairway problem. The representative advised Partyka to try the company's line of amino-acid based products. Now they're the base of Partyka's turf-care program.

On April 1, 1999, Partyka and his assistant, Joe Giuliano, applied Nutramax's Macro-Sorb radicular for the first time at 4 ounces per 1,000 square feet. The radicular delivers L-amino acids to enhance root mass production. Partyka



**The damaged fairways have transformed into lush, green turf with a 10-inch root system. "I've built my program around the amino acids," Partyka says.**

used it in combination with a biostimulant and a wetting agent. He and his crew kept applying the same combination every two weeks.

When the soil temperature reached 55 degrees, Partyka substituted the Macro-Sorb radicular with Macro-Sorb foliar at 1.5 ounces per square feet, which adds specific L-amino acids to turf to make water and fertilizer last longer. Partyka and his crew used this mix every two weeks through mid-September.

The amino acids in the products provide turf with more energy to pull nutrients and water from soil more effectively.

Partyka and Giuliano continued the Nutramax program in 2000 and 2001. Partyka has seen steady progress, even though the turf's pH is still high (it was 9.58 last year). The damaged fairways have transformed into lush, green turf with a 10-inch root system.

"I've built my program around the amino acids," he says. "It's like our Bible. We never miss an application from April through September."

There are added and unexpected benefits as well. Partyka has decreased irrigation, thanks to the Macro-Sorb foliar. He irrigates less than he did a year ago.

Partyka says the foliar also allows him to reduce application of his organic fertilizer to 1.5 pounds per 1,000 square

feet from 4 pounds per thousand square feet. "I never thought I could go that low," he says.

Partyka also reduced his fungicide applications thanks to the radicular, which helps turf fight off certain diseases so less fungicide is needed.

While Partyka sprays an insecticide to control grubs, he believes the Nutramax program also functions as a strong grub-control process. The turf's roots are so thick and deep that grubs can't destroy them, Partyka says. "Skunks and raccoons can't pull back the turf because the roots are so strong," he adds. (Hence, Partyka has saved money because he's cut back on insecticides.)

Partyka says Nutramax's amino acids are easy to use, are compatible with other products, and they don't clog the sprayer. Of course, they offset sodium from effluent water to make for healthy fairways — and provide peace of mind to worried superintendents. ■

*Editor's note: Jewell is president of Jewell Baker Zander, a public relations firm in Kansas City, Mo.*

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Real-Life Solutions article  
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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



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bunker at a time over a two-year period.

Morris and his staff also used old aerial photographs to study the original bunkers. But they hit pay dirt when one of the members gave them old home movies of the entire course soon after it opened in 1929.

"We had movies of every hole from

tee to green," Morris says. "I felt we had good enough documentation that we could do it."

Morris and his staff began the project in the fall of 1997 and finished in the spring of 1999. According to Morris, the Crystal Downs greens committee never considered hiring a contractor. It was agreed the project was straightfor-

ward enough to complete in-house, cost-prohibitive to outsource and that no contractor would find the project's two-year labor schedule acceptable.

"Another key element that allowed us to do it in-house is that we didn't have a lot of construction to do," Morris says. "We just dug out the old bunkers and reshaped them. We didn't purchase new sod, and we didn't have much sod stapling."

### The outcomes

"The reaction from the members was incredible," Austin says of his completed project. "They were excited and thrilled that [the bunkers] were back to their original form."

Austin admits the Midland Hills approach is not a reality for most golf courses. Essentially, Austin had a blank check and was instructed to hire a big-name contractor to complete the work in the most accurate, expedient fashion.

"Money was not an issue, and Hartmen is not cheap," he says. "[But] I will go out on a limb and say it's the best [remodeling firm] in the business."

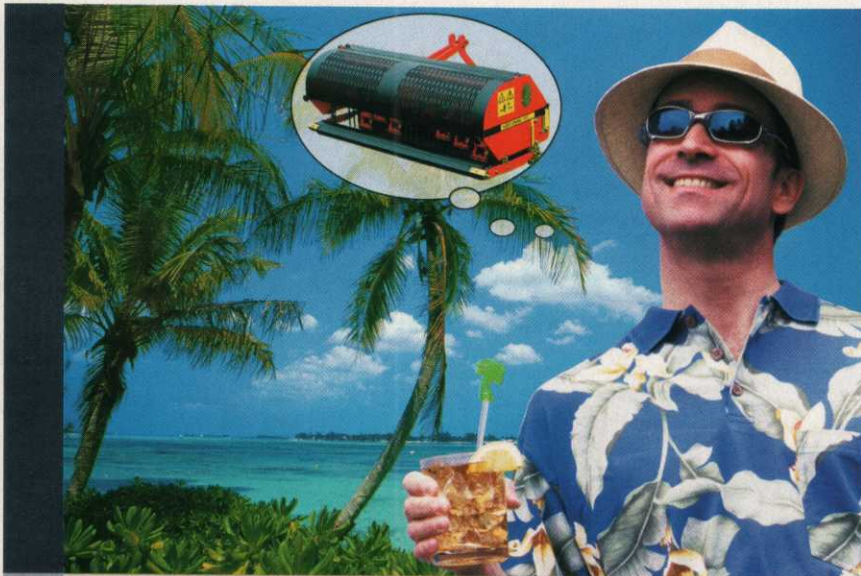
Because they elected to do the project themselves, Morris said his crew and the club's members were subject to more of the pros and cons of bunker restoration. Since he wasn't afforded any additional staff, workers had to split time between their regular duties and revamping the bunkers.

"Some of our seasonal maintenance practices were neglected for a couple years, like tree trimming, brush removal and aeration," Morris says.

However, one unforeseen benefit arose from the project, one that Morris said is hard to put a price on.

"Doing the project ourselves really empowered our staff members with the sense they had accomplished something," he says. "We have a display in our lunchroom that shows the before and after, and our crew takes a lot of pride in that." ■

*Sharp is a free-lance writer from Charlotte, N.C.*



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