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Real-Life Solutions

■ COUNTRY CLUB OF CULPEPER, CULPEPER, VA.

Foliar Fertilizer in the Fold

Superintendent finds that amino acid-based product is just what his course's faltering greens needed

BY LARRY AYLWARD, EDITOR

Charlie Fultz is a turf medicine man who says he has a reputation for "bring-

ing back greens from the dead." For that reason, Fultz says he was hired as superintendent of the Country Club of Culpeper in Culpeper, Va., in 1996. While the greens weren't dead at the golf course, they weren't thriving. "They were in bad shape," Fultz says.

The problem

Nine of the 18 greens at the Country Club of Culpeper are push-up greens and 50 years old. The other nine are sand-based greens and

Problem

The greens at the Country Club of Culpeper were barely holding half-inch roots through thatch during the summer months.

Solution

An amino acid-based product that's 18 percent nitrogen and designed to be completely absorbed foliarly.



7 years old. But the greens had at least one thing in common about three years ago: In the mid-to-late summer, their turf thinned and root depth diminished, thanks to heat and mowing stress.

Fultz couldn't place his greens on an Augusta-like fertilizer program because his modest budget couldn't afford it. Still, he says he was using biostimulants and soluble fertilizers that were highly regarded and expensive. "But I was paying too much and not getting everything from the products that I should have," Fultz contends.

Fultz says it was difficult for his greens to maintain healthy root structures during the torrid summers in the transition zone.

"In this area, roots are going to shrink during the summer," Fultz acknowledges. "But my greens were barely holding half-inch roots through thatch."

The bottom line is maintaining healthy greens, the most important component of the course, Charlie Fultz says.

The solution

In early summer 1999, Fultz received a flyer from Grigg Brothers, which described the Albion, Idaho-based company's line of foliar fertilizers.

"I read it, and it piqued my interest," Fultz says. "I was impressed with the research the company conducted to back its products."

Much of the research was done by plant nutrition expert Gene W. Miller, a professor at Utah State University and Grigg Brothers' director of product development. To develop efficient foliar fertilizers, Miller has studied natural nutrient chelation, uptake, absorption and translocation processes in plants for many years.

Fultz was also impressed

that Gary Grigg, a co-founder of the company with his brother, Mark, was a long-time superintendent. "The company's products are developed by a superintendent with the superintendent in mind," Fultz says.

Fultz decided to give Grigg Brothers' products a three-month trial. He used the company's Gary's Green product on his greens and was impressed. The amino acid-based product is 18 percent nitrogen and designed to be completely absorbed foliarly. Complexing and chelating agents prevent it from burning turf. "The course's greens were better the second half of 1999 than they had been since I'd come here," Fultz says.

Fultz was pleased with the product's impact on the greens' root mass. He also liked that Gary's Green provided a strong greenup without rapid growth.

The product also helped prolong poa annua on the

course's older greens, which also feature Penncross bentgrass. "The poa that usually stresses out in the summer wasn't stressing out," Fultz says.

Last year, Fultz applied the product to his greens in May.

"By the end of the year, the greens were in phenomenal shape," Fultz says. "The club's veteran members were saying we've never seen the greens look and putt this well."

The greens' root depth shrunk a bit, but not like before.

"The greens didn't lose as much root depth as they did the year before and the year before that," Fultz says. "They

sustained root growth."

The roots on the older greens were 1.5 inches to 2 inches deep. They were 4 inches deep on the newer greens.

This year, Fultz used the products in April soon after aerifying the greens.

"I'm amazed at the root depth I'm seeing in my old greens," he said in June. "It's around 5 inches."

Outlook

Interestingly, Fultz says the bentgrass is overtaking the poa on the older greens. This has only been happening since he's used Gary's Green, which isn't billed to perform such a function.

"While the poa isn't stressing out, it's also not spreading," Fultz says. He notes the greens at Culpeper were 60-40 poa before he started using the product, and now they're 50-50

Fultz uses Gary's Green with Sili-Kal B and Tuff Turf, two other Grigg Brothers' products, every two weeks. He supplements the greens as needed with the company's Carbo-Plex, a stress reliever, and UltraPlex, a biostimulant complex.

The products aren't inexpensive, Fultz says, but they're worth it — even with the course's low budget.

Fultz's annual fertilizer

budget is a little more than \$18,000. He spends about \$950 monthly on Grigg Brothers' products from April through October, less than 35 percent of his budget.

The bottom line is maintaining healthy greens, by far the most important component of the course, Fultz says. On a recent day, Fultz stared at his newly cut greens with pride. They were at one-eighth inch and stimping at about 10.

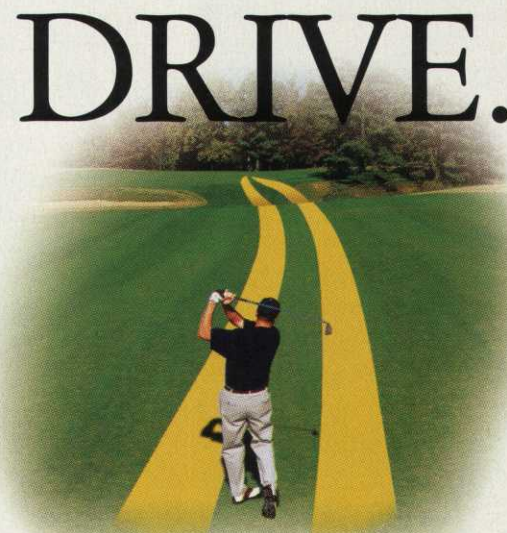
"It wasn't possible [to mow them that short] three years ago," he says. "But they look as good as ever, and the roots aren't hindered because we lowered the cutting height." ■

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The Lowdown on Low-impact Pesticides

They're environmentally friendly,
but they add dollars to the budget

BY PETER BLAIS

Times have changed in the chemical business. Just ask Kyle Miller, a market development specialist with BASF.

"Ten years ago, you would have never seen a sign on the first tee reading: 'Pesticides are applied routinely on this golf course.'



If you have any questions, call the superintendent," Miller says. "But superintendents today are learning to be much more up front about such things to head off potential problems."

One of the main ways superintendents are demonstrating more environmental awareness is the use of low-impact pesticides. These environmentally friendly products include a variety of recently developed fungicides, herbicides and insecticides that provide preventive and curative activities while requiring low use rates and extended application intervals.

The EPA is a driving force behind the development of low-impact pesticides. It eliminated the use of certain products like Diazinon, which was banned several years ago on golf courses and sod farms because of concerns over bird kills, according to Rick Brandenburg, professor and turf entomologist at North Carolina State University. The federal agency also severely limited the use of other traditional course chemicals, like Dursban, reducing maximum use rates

of the insecticide from 4 pounds per acre to 1 pound per acre.

"That virtually eliminated its use for soil-insect pests like grubs and mole crickets," Brandenburg says. "The 1-pound rate isn't high enough to be effective. You can still use it for things like cutworms, but [the ruling] took it out of the use pattern for many soil pests."

To replace these and other traditional products, many of which controlled a broad spectrum of pests and required wide applications, manufacturers have developed more pest-specific products requiring lower application rates in more limited areas.

For example, Bayer's Merit works well against white grubs and mole crickets, Brandenburg says. "But you can't use it against cutworms or army worms," he adds.

MACH 2, developed by Rohmid, is effective against grubs and will kill some caterpillars. "But it won't get mole crickets," Brandenburg notes.

There has been a shift in thinking, Brandenburg notes.

"In obtaining a more favorable environmental profile, we give up a little in terms of broad-spectrum application," he says. "That means a superintendent may need a larger product inventory because there's no such thing as one product that gets them all."

Kevin Downing, director of grounds at Willoughby GC in Stuart, Fla., says a larger in-

An obvious goal of low-impact pesticides is to make them less of a threat to humans and wildlife.

ventory translates into higher costs.

"You have more items to take care of specific problems," he adds. "We have one herbicide we would like to combine with two or three others and make a single application. But the directions say you can't combine it with anything else. You can't tank mix it with anything because the mode of action of the chemical is different. So that means more labor and man-hours per application than you would use with a broad-spectrum herbicide."

Reduced-risk registration

To get a product registered as reduced-risk, a manufacturer must prove it's safer than the product it's replacing, says Mike Daly, brand manager of the Turf and Ornamental Division with Bayer Professional Care.

"If you can demonstrate that you have such a product, EPA will shepherd it through the process on an accelerated schedule," Daly says. "You can get a label

much quicker with a reduced-risk pesticide."

Bayer's Compass fungicide took roughly a year to register, Daly says. It was developed from a substance mushrooms produce that inhibits other fungi from invading the area where the mushrooms grow. It's specific to fungi and doesn't affect mammals. The use rate is low — 0.15 ounces per 1,000 square feet.

"In some cases that represented a 95-percent reduction in pesticide load compared to the older contact fungicides it replaced in the marketplace," Daly says. "So the total amount of product placed in the environment was greatly reduced, and it was developed from substances that don't have a direct effect on mammals. That's reduced risk."

The high cost of bringing low-impact chemicals to market, however, has increased the final bills to golf courses.

"New products are going up in price largely because of the cost of obtaining

EPA registration," says David Ross, technical manager with Syngenta's Turf and Ornamental Division. "It generally costs \$50 million to \$60 million to get a new product registered."

Adds Miller, "Bringing a new product to market is more expensive than ever because it must have reduced environmental impact and yet give good control."

That higher price tag can ultimately affect whether a course decides to go forward with a given treatment.

Downing mentions a particular insecticide that controls only mole crickets and costs \$325 per acre to apply. Another nematocide he'd like to use costs \$400 per acre.

"At \$400 per acre, how many acres can you do without jacking the green fees up to \$150," he asks. "You can't do it, so you don't do it." ■

Blais is a free-lance writer from North Yarmouth, Maine.

MIKE KLEMM



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GOLF COURSES

- 01 10 Daily Fee/Public
- 02 20 Semi-Private
- 03 30 Private
- 04 40 Resort
- 05 50 City/State/Municipal
- 06 55 Other Golf Courses (please specify) _____
- 07 60 Golf Course Architect
- 08 70 Golf Course Developer
- 09 90 Golf Course Builder
- 10 105 University/College
- 11 100 Others Allied to the Field (please specify) _____

2. Which of the following best describes your title? (fill in ONE only)

- 12 10 Golf Course Superintendent
- 13 15 Assistant Superintendent
- 14 25 Owner/Management Company Executive
- 15 30 General Manager
- 16 35 Director of Golf
- 17 70 Green Chairman
- 18 45 Club President
- 19 75 Builder/Developer
- 20 55 Architect/Engineer
- 21 60 Research Professional
- 22 65 Other Titled Personnel (please specify) _____

3. What is your facility's annual maintenance budget?

- 23 A More than \$2 Million
- 24 B \$1,000,001-\$2 Million
- 25 C \$750,001-\$1 Million
- 26 D \$500,001-\$750,000
- 27 E \$300,001-\$500,000
- 28 F \$150,001-\$300,000
- 29 G Less than \$150,000

4. If you work for a golf course, how many holes are on your course?

- 30 A 9
- 31 B 18
- 32 C 27
- 33 D 36+
- 34 E Other (please specify) _____

Please send Golfdom to the following people at my organization:

Name _____
 Title _____
 Name _____
 Title _____
 Name _____
 Title _____

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102	114	126	138	150	162	174	186	198	210	222	234	246	258	270	282	294	306
103	115	127	139	151	163	175	187	199	211	223	235	247	259	271	283	295	307
104	116	128	140	152	164	176	188	200	212	224	236	248	260	272	284	296	308
105	117	129	141	153	165	177	189	201	213	225	237	249	261	273	285	297	309
106	118	130	142	154	166	178	190	202	214	226	238	250	262	274	286	298	310
107	119	131	143	155	167	179	191	203	215	227	239	251	263	275	287	299	311
108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312
109	121	133	145	157	169	181	193	205	217	229	241	253	265	277	289	301	313
110	122	134	146	158	170	182	194	206	218	230	242	254	266	278	290	302	314
111	123	135	147	159	171	183	195	207	219	231	243	255	267	279	291	303	315
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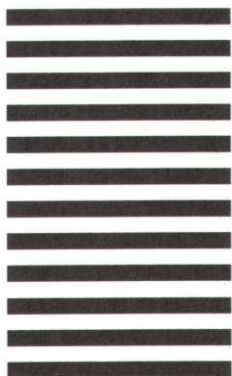


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- 02 20 Semi-Private
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- 05 50 City/State/Municipal
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108	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312
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112	124	136	148	160	172	184	196	208	220	232	244	256	268	280	292	304	316

Leaders

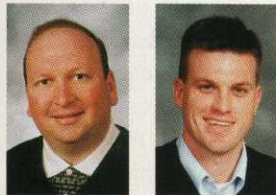
PEOPLE ON THE MOVE

NOTABLE ACHIEVERS

The following superintendents were certified recently: **Terrance J. Boehm**, Avon Oaks CC, Avon, Ohio; **James Sprankle**, Golfcourse, Muntinlupa, Philippines; **Scott Jamros**, Hawk's Landing GC at The Orlando World Marriott, Orlando; **Edwin M. Eagle**, Ingleside Resort, Staunton, Va.; **Christopher Boyle**, Mendham Golf & Tennis Club, Mendham, N.J.; **Richard Wolkiewicz**, Stonehenge Golf & CC, Richmond, Va.; **Robert Horan**, The Country Club, Muntinlupa, Philippines; **James Schleutker**, Vero Beach CC, Vero Beach, Fla.; and **Keith Einwag**, Westin Innisbrook Resort, Palm Harbor, Fla.

The American Society of Irrigation Consultants named its officers at a recent meeting: **Brian Vinchesi**, Irrigation Consulting, Pepperell, Mass., president; **Jim Barrett**, James Barrett Associates, Montclair, N.J., vice president; **Dan Benner**, Hydro Environmental, Marietta, Ga., secretary; and **David Davis**, David D. Davis and Associates, Crestline, Calif., treasurer. The association also awarded **Orlando DiReienzo** its lifetime achievement award.

Chipco Professional Products, a division of Aventis Environmental



Science, named **Joseph Grippi** (left) and **Scott Parker** as sales representatives. Grippi oversees western Michigan and northern Indiana, while Parker oversees southern Indiana northern Kentucky and central Illinois.

The American Society of Golf Course Architects elected eight new associate members: **Paul Albanese**, Raymond Hean Golf Design, Plymouth, Mich.; **Kevin Benedict**, Palmer Course Design, Ponte Vedra Beach, Fla.; **Glenn Boorman**, Denis Griffiths and Associates, Braselton, Ga.; **Brian Costello**, JMP Golf Design Group, Saratoga, Calif.; **David Dale**, Golfplan, Santa Rosa, Calif.; **Tim Nugent**, Nugent Golf Associates, Long Grove, Ill.; **Drew Rogers**, Arthur Hills/Steve Forrest and Associates, Toledo, Ohio; and **Shane Wit-**

combe, Greg Nash Design, Phoenix.

Dan Cunningham was appointed vice president of development and construction of KemperSports Management.

Vince Gillis will retire from his post as executive director of the Canadian Golf Superintendents Association early next year.

Scott Pinkerton joined Precision Laboratories as district manager for the South-Central region.

John Brader joined Landmark Seed Co. as a sales and marketing representative.

ProSource One named **Jay McCord** as turf seed development manager. The company also added **Jeff Schmalz** as sales representative for eastern Pennsylvania, Philadelphia and New Jersey.

Fred Anderson (left) and **Scott Adams** joined Reinders as turf specialists. Anderson oversees northwest



Wisconsin, and Adams oversees northern Illinois.

Send Leaders information/color photos to *Golfdom's Frank Andorka* at 7500 Old Oak Blvd., Cleveland, 44130. Fax information to 440-891-2675 or e-mail to fandorka@advanstar.com.

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Given the considerable power the Global Positioning System (GPS) can offer superintendents, it's a wonder more of them aren't using it.

According to the 2001 GCSAA Leadership Survey, only 4 percent of superintendents believe the GPS has had a significant impact on the game. It ranks last (1 percent) on the list of what superintendents consider the most important technology to help them do their jobs better.

Those statistics baffle me. The only explanation I have is that maybe it's because people haven't yet experienced GPS firsthand.

My initial experience didn't come until last year. Although I'd read about the system (and casually thrown its name around in stories about futuristic greens mowers), I never understood the power of the system until I observed it firsthand on a wintery Boy Scout campout last year.

While I waited for the feeling to return to my feet after a hike through a forest, I saw two fathers a few feet away, their heads close together. Each periodically pointed at what looked to be a cellular phone.

"See, that's where we are right now," said the scout leader, a doctor when he wasn't tramping around in the woods.

The other father, a photographer, nodded.

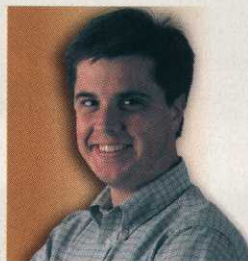
"Let's see if we can calculate the shortest path back to the parking lot from here," he said.

My experience taught me one thing: A personal GPS system (which I later learned was the technological toy these fathers were playing with) sure beats the traditional Boy Scout method of mapping, which involves moss on trees and a compass. These two guys plotted their positions in the campground with frightening accuracy. I thought about what the GPS could do for someone who has a large piece of property to care for — like a superintendent.

Think about the implications of having an accurate, digitized map of your course. It would allow you to communicate maintenance tasks more specifically to your crew. With the help of irrigation controller software, you could turn on irrigation heads with

Jump on the GPS Bandwagon

BY FRANK H. ANDORKA JR.



IT'S TIME TO STOP
STANDING ON THE
SIDELINES AND
EMBRACE THE
TECHNOLOGY FOR
THE POWERFUL
TOOL IT IS

the touch of a stylus or the click of a mouse. Renovations would be a breeze because the maps would show the course as it *really* is.

Despite these advantages, however, many superintendents are reluctant to jump on the GPS bandwagon.

Bruce Jasurda, president of Elwood, Ill.-based Tyler Enterprises, is betting on the power of the GPS to increase revenues for his company's custom-fertilizer business. It added a customized GPS mapping option in August 1999 to go with its fertilizer business. The list of courses taking advantage of it grows daily, Jasurda says.

"When people ask us to map their courses, we routinely find their estimated acreage is off by as much as 20 percent," Jasurda says. "When you're buying chemicals or applying water, a 20-percent mistake can cost thousands of dollars. If there's an accurate map, you don't waste that money."

One Midwest course overestimated its total acreage by five acres. Jasurda says that after Tyler's mapping discovered the disparity, the superintendent calculated how much extra money he had spent in the previous year on chemical applications. He found he'd wasted \$9,870.

With that kind of bottom-line impact, it shouldn't be hard sell to your owner or green committee on purchasing a map. The initial outlay for the map may be expensive, but it pays for itself within a year if used properly.

It's time to stop standing on the sidelines and embrace GPS technology as the powerful tool it is. To do otherwise is to miss the forest for the trees.

Frank H. Andorka Jr., managing editor of Golfdom, can be reached at 440-891-2708 or fandorka@advanstar.com.