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Not Your Father's Fertilizer

New technologies have expanded the possibilities, but it takes homework to decide which one is best for you

By Frank H. Andorka Jr.,
Associate Editor

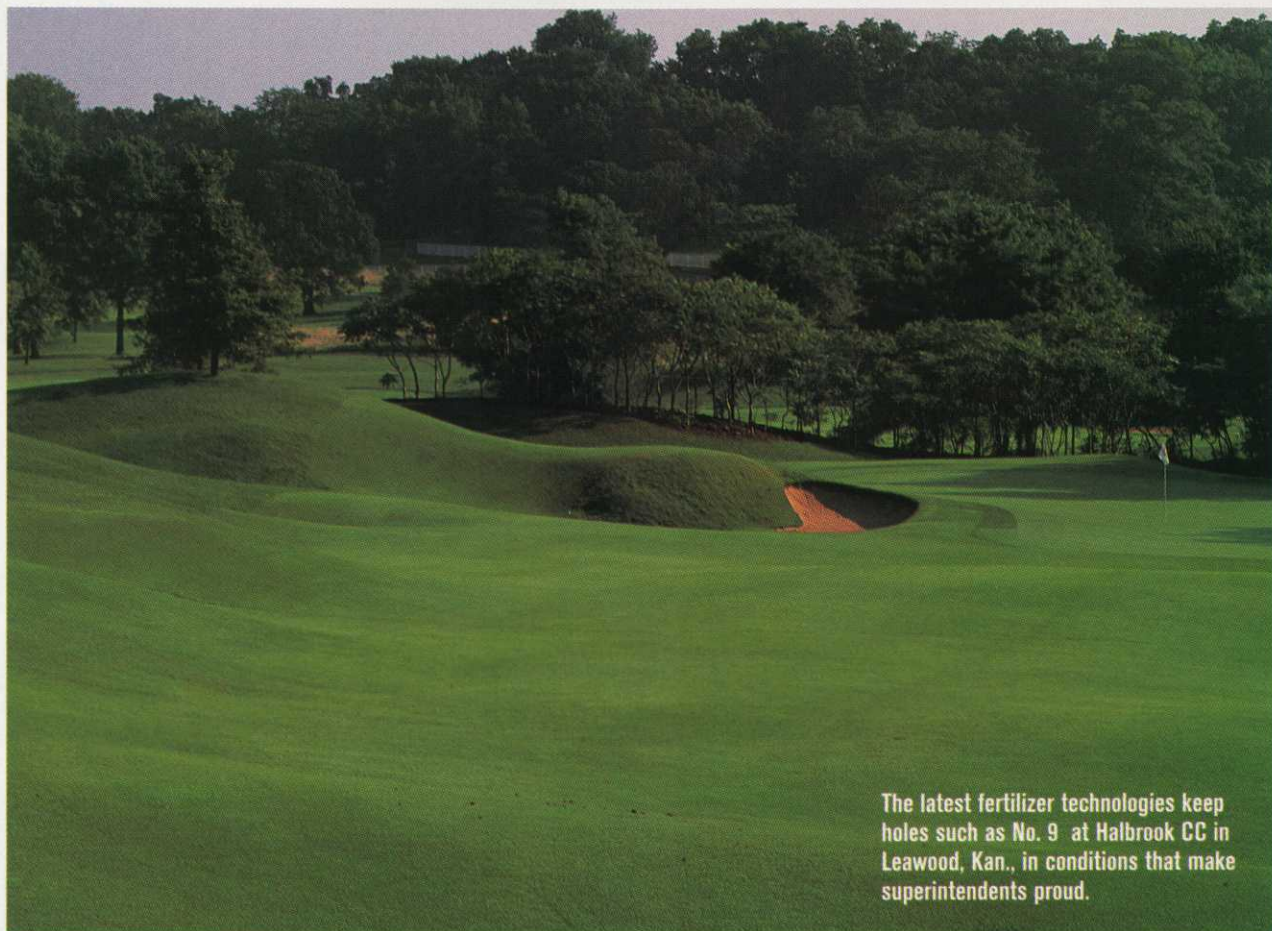
George Frye, superintendent of the Ocean Course at Kiawah Island Golf & Tennis Resort in Kiawah Island, S.C., says fertility programs, like subtle legal differences between states, depend on where courses are located.

With all the new products coming on the market, Frye says careful consideration should take into account factors such as grass type, weather conditions — even water quality.

“Fertility programs are not one-size-fits-all propositions,” Frye says. “When fertilizers fail, it’s most likely because the superintendent didn’t analyze the problems well enough and figure out which products were best for his or her course.”

Stephen Ludwig, superintendent at Gettysburg CC, a private 9-hole course in Gettysburg, Pa., says there’s a lot of trial and error involved in picking a fertility program, but the latest technologies have significant advantages if a superintendent can afford them.

Continued on page 84



The latest fertilizer technologies keep holes such as No. 9 at Halbrook CC in Leawood, Kan., in conditions that make superintendents proud.

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Circle No 141

Continued from page 82

"Slow-release products give you a good release value at a reasonable price," Ludwig says. "They're a little more expensive, but when you're looking to keep your course in the best shape possible, you have to be willing to spend the money."

Though computer technology reportedly changes every 18 months, fer-

tilizer technology doesn't change nearly as quickly. Manufacturers of slow-release fertilizers work each day to improve the products similar to those that have been around since 1955. Their use, however, didn't expand rapidly until coated products reached the market in the late 1970s and early 1980s, says Jeff Higgins, director of marketing for Pursell Tech-

nologies. The products from that era, which consisted of urea and potassium coated with sulfur, worked fine, but they were unstable because sulfur is a brittle coating at best, Higgins says.

"The problem with that technology is that sulfur buckles under pressure too easily," Higgins says. "With strictly sulfur-coated products, there were too many instances where the fertilizer acted like a fast-release product, which didn't help the superintendents at all."

Their instability also increased costs for the fertilizers because brittle coatings made the fertilizers difficult to ship, Higgins adds. So developers returned to the labs and developed polymer coatings far more stable than sulfur. "It gives superintendents more control over the length of release," Higgins says of the coatings.

Pursell has worked hard to standardize its coating technology in its Polyon product to avoid the inconsistent release of the fertilizer. "We listened to the superintendents, who were telling us they needed 100 percent of the nutrients released when they wanted them released," Higgins says.

Charlie Ulevich, superintendent at Hayfields CC in Hunt Valley, Md., says inconsistent release was the problem he had with granular fertilizers in the past. He doesn't like the flush of top growth a sudden release of fertilizer creates.

"I've used synthetic granulars in the spring, and they were good products," Ulevich says. "The problem, however, is that when you depend on myriad environmental factors to produce a perfect release, you're asking for trouble if those factors don't appear at all or don't occur in the right order."

The Scotts Co. heard complaints such as Ulevich's before, so the Marysville, Ohio-based company unveiled a new line called Premier Fairway Fertilizer at last month's GCSAA show. The new line, which combines the technologies of the company's Poly-S and Extend fertilizers, offers superintendents new flexibility, says Don Brougner, Scotts' marketing manager. It will even-

Continued on page 86

THE CASE FOR FERTIGATION

High-tech control meets old-fashioned plant nutrition

By Frank H. Andorka Jr.,
Associate Editor

Superintendents are always looking for ways to improve their turf care practices. When it comes to delivering plant nutrition, fertigation opens new possibilities.

Charlie Ulevich, superintendent at Hayfields CC in Hunt Valley, Md., says he's been a granular man all his life, but now he's in the process of converting his fertility program to fertigation instead.

"If the system is right, it takes a lot of the guesswork out of your fertilization program," Ulevich says. "It allows more flexibility and takes human error out of the equation."

The keys to fertigation are:

- having an irrigation system sufficient to handle the added responsibility of delivering plant nutrients; and
- being able to buy the fertilizers in quantities that don't make it cost-prohibitive.

Dan Pierson, superintendent at Wilmington CC in Wilmington, Del., says the resources at his disposal allow him to buy fertilizer in 1,000-gallon increments, which makes his fertigation program work.

When he compares his return on investment for fertigation to the use of granular fertilizers, the system pays for itself, Pierson says. In a traditional fertilizer product, the plant only takes up between 45 percent to 60 percent of the nutrients, he says. With fertigation, that number jumps to between 80 percent and 90 percent.

"We're getting such a result from our fertigation program that our fertilizer budget has remained the same, but we're delivering higher quality products than we used

to," Pierson says. "Fertigation produces almost an immediate impact on the golf course. It's amazing to see."

The case for fertigation isn't all black and white, however. Without a proper irrigation system, a course may not get the nutrient coverage it needs, says George Frye, superintendent of the Ocean Course at Kiawah Island Golf & Tennis Resort in Kiawah Island, S.C.

"If you don't have the right system, your application runs the risk of being spotty," Frye says. "You need to make sure your system covers the whole area you need covered because if it's not, the grass won't get the nutrition it needs."

Fertigation can also depend on the weather conditions, Frye says. In windy conditions, superintendents may have trouble getting the proper application.

"While it's easy to say 'Move to fertigation,' as with any other fertility program, you have to make sure it's right for you," Frye says. "Examine all the variables before you make a decision."

Expense is also a concern. Andree-Anne Couillard, turfgrass technical services manager for The Scotts Co., a Marysville, Ohio-based company, says liquid fertilizers don't last as long as granular fertilizers, thereby increasing costs through more frequent applications.

Still, Pierson and Ulevich both say the expense is worth it for the amount of control a superintendent gains with fertigation. Ulevich says superintendents can get an expensive irrigation system for around \$10,000, and Pierson says microfeeding is the wave of the future.

"Fertigation actually reduces labor costs because you don't have your crews out there putting the fertilizer down by hand," Ulevich says. "You have full control over where the fertilizer goes and when."

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Fertilizer

Continued from page 84

tually allow Scotts to customize fertilizers for the release characteristics that superintendents need in specific regions of North America.

"We discovered the two technologies we had were complementary to each other in a lot of ways," says Andree-Anne Couillard, Scotts' turfgrass technical services

manager. "That's why we decided to create the new combined products to give superintendents more flexibility."

When the Poly-S and Extend technologies are combined, they produce a more tailored release of nitrogen over time to give superintendents the results of both initial greening and longevity of release, Couillard says. Al-

though both technologies are slow-release, Poly-S is used primarily for its early green-up, while Extend's main attribute is its extended release of nitrogen.

Lange Professional Fertilizer Products has tried to stabilize the nitrogen in its Agrico Turf fertilizer, arguing the volatility of the source produces uneven results. Michael McCarthy, director of marketing for Lange, says an enzyme in Agrico Turf prevents the nitrogen from releasing before it's actually necessary for plant growth.

"The plant gets the nitrogen in the form it needs on an as-needed basis," McCarthy says. "It doesn't evaporate the way it would if you were to put straight urea in the ground."

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"Nitrogen is to plants what candy is to kids."

MIKE MCCARTHY
Lange Professional
Fertilizer Products

McCarthy says Agrico Turf also prevents plants from getting too much of a good thing.

"Nitrogen is to plants what candy is to kids," McCarthy says. "If it's available, the plants will use it. That doesn't produce the healthiest plants and makes them susceptible to disease and stress."

Agrico Turf also locks itself to soil molecules, which reduces the environmental concerns that all golf courses face, says McCarthy.

Ludwig says though it's hard work determining the best fertilizers for the turf, picking the right product will produce better results in the long run.

"You have to try certain things to see how they work on your course because your course is not a test plot," Ludwig says. "Do your research. With all the products available to you today, there will be one out there designed to meet your needs." ■

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Circle No. 158

Case Study #2

■ MAINTENANCE

Sand on Steroids

Soil amendment bulks up sand-green drainage capacity

BY FRANK H. ANDORKA JR.
ASSOCIATE EDITOR



Problem

Sand-based greens wouldn't stand up to the high traffic expected on Capitol Hill GC, and the drainage capacity needed to be maximized.

Solution

Adding Profile to the sand underpinning the greens resisted compaction from foot traffic, increased green drainage and inhibited the creation of a thatch layer.

John Yancey, who would soon become the superintendent of Capitol Hill GC, a 54-hole facility in Prattville, Ala., surveyed the site of his future golf course in the fall of 1997. The construction crew had just started clearing the site, and the course slowly took shape.

The course planned USGA specified sand-based greens, but Yancey wanted to ensure the greens drained well. He was skeptical that sand-based greens alone would fit the bill.

"Sand by itself doesn't hold moisture well over time, and it compacts pretty easily, which hurts the overall health of the greens," Yancey says. "We were looking for something that would accentuate the posi-

tives of a sand base while adding desirable characteristics such as nutrient and water retention."

Yancey says he had read about a product called Profile a couple of years before the first greens were grown at Capitol Hill in 1998. He thought it might be an appropriate soil amendment that would meet his needs. He researched the product and called upon fellow members of the Robert Trent Jones Golf Trails' group of eight courses in Alabama to see if any of them used the product. He found several of the other courses were using Profile as a top-dressing. The superintendents at those courses were impressed with the results.

The problem

Yancey hoped supplementing the greens' sand with

Profile was added to the greens at Capitol Hill GC to improve drainage, withstand heavy traffic and prevent the development of a thatch layer.

Profile would increase the drainage potential and nutrient retention, which would not only increase root mass, but would also maintain better overall turf health. Concerns about compaction and thatch also drove Yancey to supplement the sand for the greens.

"My experience has always been to take a long-term approach, and we were projecting that Capitol Hill would be a high-traffic course," Yancey says. "The owners wanted greens that would stand up to the traffic."

Yancey says he also installed a Sub-Air drainage

Continued on page 91

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| 16 <input type="radio"/> 25 Owner/CEO | 22 <input type="radio"/> 55 Architect/Engineer |
| 17 <input type="radio"/> 30 General Manager | 23 <input type="radio"/> 60 Research Professional |
| 18 <input type="radio"/> 35 Director of Golf | 24 <input type="radio"/> 65 Other Titled Personnel |
| 19 <input type="radio"/> 70 Green Chairmen | (please specify) _____ |

3. What are the types of turf on your:

- | | | |
|---|---|---|
| A. GREENS | B. TEES | C. FAIRWAYS |
| 25 <input type="radio"/> 1 Bent | 29 <input type="radio"/> 1 Bent | 34 <input type="radio"/> 1 Bent |
| 26 <input type="radio"/> 2 Bermuda | 30 <input type="radio"/> 2 Bermuda | 35 <input type="radio"/> 2 Bermuda |
| 27 <input type="radio"/> 3 Rye | 31 <input type="radio"/> 3 Rye | 36 <input type="radio"/> 3 Rye |
| 28 <input type="radio"/> 4 Other (please specify) _____ | 32 <input type="radio"/> 4 Fescue | 37 <input type="radio"/> 4 Fescue |
| | 33 <input type="radio"/> 5 Other (please specify) _____ | 38 <input type="radio"/> 5 Zoysia |
| | | 39 <input type="radio"/> 6 Other (please specify) _____ |

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

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|--|--|
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| 43 <input type="radio"/> D \$500,001-\$750,000 | |

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

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| 47 <input type="radio"/> A 9 | 49 <input type="radio"/> C 27 | 51 <input type="radio"/> E Other (please specify) _____ |
| 48 <input type="radio"/> B 18 | 50 <input type="radio"/> D 36+ | |

6. Are you the person responsible for golf car purchasing/leasing?

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| 52 <input type="radio"/> A Yes | 53 <input type="radio"/> B No |
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7. Are you directly involved in purchasing decisions for your facility?

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| 54 <input type="radio"/> A Yes | 55 <input type="radio"/> B No |
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7A. If yes, which of these products do you specify, buy or approve?

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| 57 <input type="radio"/> B Architectural Services | 72 <input type="radio"/> Q Irrigation Systems | 87 <input type="radio"/> 6 Soil Analysis |
| 58 <input type="radio"/> C Batteries | 73 <input type="radio"/> R Irrigation Parts | 88 <input type="radio"/> 7 Sprayers |
| 59 <input type="radio"/> D Biostimulants | 74 <input type="radio"/> S Landscaping | 89 <input type="radio"/> 8 Spreaders |
| 60 <input type="radio"/> E Construction Services | 75 <input type="radio"/> T Lubricants | 90 <input type="radio"/> 9 Tanks/USTs |
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| 64 <input type="radio"/> I Drainage Supplies | 79 <input type="radio"/> X Pumps/Stations | 94 <input type="radio"/> 13 Turf Markers |
| 65 <input type="radio"/> J Erosion Control | 80 <input type="radio"/> Y Rakes | 95 <input type="radio"/> 14 Uniforms |
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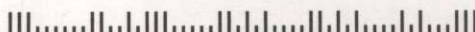
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 52 A Yes 53 B No

7. Are you directly involved in purchasing decisions for your facility?
 54 A Yes 55 B No

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101	113	125	137	149	161	173	185	197	209	221	233	245	257	269	281	293	305
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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
112	124	136	148	160	172	184	196	208	220	232	244	256	268	280	292	304	316