



# Spoon-Feeding Sand Creek

The USGA greens at Sand Creek become mottled without regular treatment with wetting agents and soluble fertilizer.

**D**espite the growing threat of imported steel and rising interest rates, a decade ago the mammoth Bethlehem Steel Corporation showed the confidence to build the Sand Creek Country Club in Chesterton, IN, as a private golf course for the hard-working salaried employees of its Burns Harbor plant.

A short, 15-minute drive from the noise and fumes of the huge furnaces, Bethlehem bought 517 acres of corn fields and swamp on the southern edge of Indiana Dunes State Park. Then they hired Ken Killian and Richard Nugent to design an 18-hole private course where its executives could get away for a few placid hours of golf. Killian and Nugent also designed the championship Kemper Lakes Golf Course for Kemper Insurance in Hawthorn Woods, a northwest suburb of Chicago. Both spent their first years as golf course architects under Chicago-based Robert Bruce Harris, one of the founders of the American Society of Golf Course Architects.

On 225 of the acres Killian and Nugent wrapped a 6,400-yard course around Sand Creek and two large natural lakes. They added three manmade lakes and strategically located 59 bunkers and hundreds of dogwood, spruce and beech trees along fairways and greens to challenge the golfer. All greens were constructed to USGA specifications. Instead of limiting bentgrass to the greens, they also called for it on the tees



Kevin Smith

and fairways. The roughs, driving range and clubhouse grounds were seeded with Kentucky bluegrass. The architects went so far as to include four practice holes around the driving range, in addition to a practice putting green and a practice chipping area. A Toro hydraulic irrigation system was designed to meet the needs of the bentgrass and to combat the frequent winds off Lake Michigan just two miles away.

Superintendent Peter Sinnott, who joined Sand Creek from Firestone Country Club, and his assistant, University of Wisconsin-trained agronomist Kevin Smith, pushed the bentgrass to get it established as quickly as possible. They were working with three

different soil conditions; the sandy USGA mix on the greens, sandy loam where the cornfields had been and a gumbo clay where the swamps had been turned into fairways or roughs. The granular quick-release fertilizers they used to push the turf and the variation in the soils began to present problems.

"The effects of lake winds were causing problems with even distribution of irrigation water when granulars were being washed in," recalls Smith. "This caused fertilizer tracking and burn." The greens also had a mottled appearance which had to do with hydrophobic (water repellent) patches of soil and a growing thatch layer.

To get away from the quick-release granular fertilizers, Sand Creek started applying slow-release, non-burning fertilizers on the greens and tees. But they still wanted to be able to get nitrogen and other nutrients to the bentgrass quickly when it was necessary. Their thinking was that they could augment their slow-release fertilizers with small doses of fertilizer to help the bent recover from diseases and insect damage. They also believed that potassium and other nutrient levels in the soil had to be maintained to help retard dollar spot, brown patch and pythium.

Instead of just changing the fertilizer program, Sinnott and Smith developed a total spray program that included wetting agents, soluble fertilizer and pesticides.

The wetting agent was necessary to cure the localized dry spots. "If we didn't spray the greens with wetting agent at least once a week, the spots would start to come back," says Smith. The drawback with wetting agents is they had to be watered in. The crew could spray only a few holes each morning because the wetting agent had to be watered in before the golfers were allowed on the course. It took the spray rig operator all week to treat every hole.

Preventative treatments of fungicides (Bayleton, Chipco 26019, Cleary 3336) were being applied every two to three weeks from May to October. Dursban was applied as necessary in July to control cutworms. Finally, postemergence herbicides were applied as needed through the late spring and summer.

"We thought that since we were spraying the greens, approaches and tees every week from May to October with either insecticides, fungicides or herbicides, that we could add a soluble fertilizer to the tank mix and spoon-feed them," explains Smith. The fertilizer, however had to be compatible with the wetting agent and pesticides. Furthermore it had to be sprayable, non-burning and contain minor elements and micronutrients.

Sinnott and Smith decided to apply 1/10th of a pound of soluble nitrogen per 1,000 square feet each week to the greens and tees with the tank mix in addition to a 1/2 pound rate of slow-release nitrogen (22-0-16) in April and a two pound rate of slow-release (6-2-0) in October. Most of the soluble fertilizer used is either Nutriculture Bent Special (28-8-18) or Potash Special (10-20-30). For more than ten years, Sand Creek has followed this program on its greens and tees.

"I think we have found a way to balance the rapid leaching characteristics of our greens and to correct the pockets of hydrophobic (water-repellent) sand," says Smith. "The tendency is to overfertilize to compensate for the leaching. This leads to spurts of lush growth that encourage diseases and insects. Spoon-feeding with solubles gives the turf a consistently green color and helps the bentgrass recover from diseases and insects. We are actually controlling the growth of the turf on a weekly basis making adjustments as needed."

There is no question that such an approach requires extra effort on the part of the crew. Smith didn't want heavy spray equipment on his greens so he had the crew use a small boom sprayer on the back of a truckster. It took about ten tank-fulls to spray all the greens and tees. "We try to protect the greens from compaction since we get about 24,000 rounds per year and aerate just once in the fall," he adds.

Smith stayed with granular fertilizers for the fairways. "We can put down 3/4 pound (nitrogen per 1,000 square feet) of granular fertilizer in one application to hold us on the fairways for three to four weeks," says Smith. "You can't really do that with a soluble product."

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There have been a lot of changes at Sand Creek in the past few years. Sinnott left Sand Creek to start a landscape maintenance company and Smith was promoted first to superintendent and then general manager. As the steel industry continued to feel the pressure from foreign competition, Bethlehem decided an employee-only club was no longer practical. It became Smith's job to make the course profitable. First it was decided to open up membership to local businesses and professional people. More than 300 jumped at the chance to belong to Sand Creek Club. To increase membership further, all initiation and equity fees were dropped. The total program netted an increase in membership by 50 percent, from 410 to 615.

Finally, the giant steel company told Smith it had to sell Sand Creek and instructed him to keep the course in top shape for potential buyers. North American Group, a real estate investment company in Chicago, took immediate interest in the golf course and

the 300 undeveloped acres surrounding it. It wouldn't be long before Chicagoans would realize that 45 minutes southeast of the Loop by car or commuter train and just two miles from the dunes of Lake Michigan, there was a community with a golf course rivaling those on the north and west side of town. North American believed it could break the boundary golfers had created between Illinois and Indiana.

Smith, who had served as superintendent since 1980 and general manager since 1984, was relieved when the sale was finalized and he was able to hire Rich Schroeder, a turf graduate from Purdue University, to take over maintenance of the golf course and the clubhouse.

The new superintendent quickly came up with another idea for the early morning, week-long spray program. "Now we inject the wetting agent into the irrigation system so we can spray fertilizer and pesticides without worrying about watering in,"

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**A small truckster-mounted sprayer is used to treat the greens, tees and approaches weekly.**

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Schroeder explains. Freed from the short, early morning treatments, two operators can spray all the greens and tees with soluble fertilizer and pesticide in a single day without interrupting play.

The new superintendent's main targets are a thatch layer that has built up on the fairways and patches of *Poa annua* invading the bentgrass. This past spring he verticut the fairways and continued a clipping removal program started by Smith years before. He is trying a turfgrass growth regulator from Scotts to regain control over the annual bluegrass. He is also reevaluating the fertilization, irrigation and preemergence herbicide programs for the fairways.

The fairways are cut with triplex greens mowers. Sand Creek's crews are able to cut nine holes a day, six days a week. "We like to keep the blade about 1/2 inch off the ground—you get a nice checkerboard effect that way," states Schroeder. The bluegrass roughs are mowed at two inches with reel gangs every other day. "A golfer who ventures too far off target either hits water, a trap or tall rough," says Schroeder. "There's a big difference between hitting off half-inch bentgrass and two-inch bluegrass."

The greens and tees are verticut once a month prior to sand topdressing. Schroeder recently purchased "Turf Groomers" for

the greensmowers so he can lightly verticut the greens and tees on a more frequent basis and possibly cut back on sand topdressing. "Golfers like the fast, smooth greens brought about by sand topdressing, but they don't like all that sand on the green right after you topdress," explains Schroeder. "You really have to go one way or the other since the sand can damage the groomer. We're going to try the groomer on a few greens and compare the difference."

If the Chesterton Planning Commission approves North American Group's proposal, the firm will add nine more holes to Sand Creek and build a planned community around the course. Smith lately has been busy meeting with local officials and the land planner to create a master plan. He seems comfortable with the business end of golf. "My job just evolved toward general management," he reveals. "The clubhouse, swimming pool, tennis courts and pro shop were built after the course was. We helped out during construction with the landscaping and chipped in on building and inside repairs as they were needed. If there was a problem with the kitchen or the air conditioning, we took care of it if we could."

When Smith hired Schroeder, he gave him the responsibility for both golf course and clubhouse maintenance. "Building maintenance is new to me, but it gives me experience most superintendents don't get during their careers," says Schroeder. "We are

able to get a better individual by putting him in charge of both buildings and grounds," explains Smith.

Both Smith and Schroeder find themselves in the middle of two significant changes in golf. The first is the conversion of a private, corporate course into a centerpiece for a new planned community. The real estate industry can justify the cost of a first-rate golf course while individual corporations are finding the luxury of a company course impractical.

The second is the development of an eastern frontier for Chicago's golfers. Beginning with the seven-hole Chicago Golf Club in the western suburb of Belmont in 1892, golf courses have spread with the city's population to the north, west and south—every direction but east. It seemed like the Indiana state line was an unofficial borderline for the development of fine golf courses to serve those who work in the windy city. Chicago golfers weren't even considered when the course was built. Now the course's future depends upon them.

Smith and Schroeder have adapted turf maintenance practices to fit their changing world and entered areas of management more and more superintendents are being asked to handle. They are excellent examples of the evolution of golf course management, a career that is changing to meet the needs of both golfers and developers. ●

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