

Supers find mission possible with methyl bromide

By TERRY BUCHEN

The pioneering efforts of a team of agronomists in 1980 have led to discovery of a whole new world of inventive problem-solving in greens renovation.

Back in 1980, Dr. Joseph Duich was called to Butler National Golf Club in Oak Brook, Ill., which was suffering from Toronto C-15 Bacterial Wilt Infection.

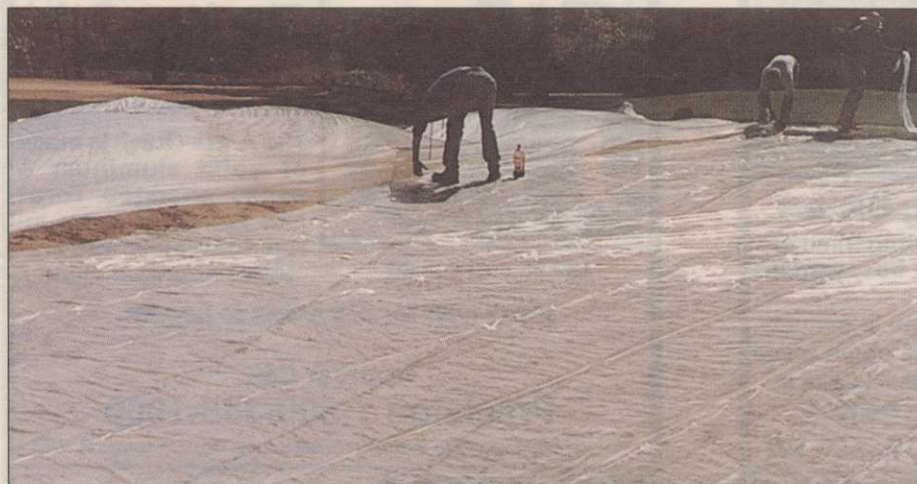
Facing the problem of renovating all 18 greens without going through a costly, time-consuming total re-do of each green, Butler decided to totally renovate the surface of each green using recommendations from the team of Duich, Edward W. Fischer, Robert M. Williams, Arthur W. Benson, Dr. John Wehner and officials of the Golf Course Superintendents Association of America.

They decided to:

- 1) Mow the greens many times, as closely as possible.
- 2) Aerify them twice with 5/8-inch tines, and remove all plugs.
- 3) Have Hendrix & Dail, Inc. fumigate all greens with methyl bromide and cover them with a plastic tarpaulin. After 48 hours, the tarp was removed to let the soil breathe for 48 hours.
- 4) Strip the dead sod, leaving about one-quarter inch of thatch.
- 5) Top dress the surface heavily, filling the aerifier holes and providing a "cushion" effect mixing the thatch with the sand.
- 6) Seed with Penneagle creeping bentgrass "foundation seed" at one-half pound pure live seed in two different directions.
- 7) Apply a starter fertilizer.
- 8) Spray on a soil-set surface sealer.
- 9) Saturate the seed for 24 hours to swell the seed. Water about every two hours to keep the seed moist at all times, thereafter.

Seeding began immediately after the Labor Day weekend. Germination occurred in three days, with the first mowing at one-quarter inch in 14 days.

Temporary greens were phased in about



A crew installs a plastic tarpaulin on a newly renovated green surface after applying methyl bromide.

'We did not want to totally rebuild our small, undulating greens.'

—Thomas Walker



'The members said it was definitely worth all of the time and effort involved.'

—Mark Yoder

two months before the renovation work and were in great shape by Labor Day. The new greens were opened on May 1, 1981, to rave reviews.

SUCCESS BREEDS SUCCESS

Other pioneering superintendents followed, successfully restoring their greens at minimal cost and down time to rid the C-15 decline.

Since the results were so good, a new variation of the renovation process evolved to rid older courses of poa annua.

At Inverness Club in Toledo, Ohio, superintendent Thomas F. Walker said: "We did not want to totally rebuild our small, undulating greens because of the dreaded poa annua that was in dominance in the original South German creeping bentgrass."

Being a strong supporter of the United States Golf Association Green Section's Turfgrass Advisory Service, Walker brought in Stanley J. Zontek from the USGA's Mid-Atlantic Region.

Also collaborating at the Donald Ross-designed course were Dr. Joseph Vargas of Michigan State University, who helped the club with disease situations over the years, and Duich, who developed and recommended Pennlinks creeping bentgrass.

Walker and the Green Committee decided to go with Pennlinks because of its aggressive rooting capabilities, fine texture, low affinity for scalping, and pleasing color.

The Green Committee discussed re-grassing all 18 greens — nine one year and nine the next — or having a trial re-grassing on two greens. The trial was selected and a turf nursery was established for experimentation purposes.

In August 1987 the trial greens were renovated with great success.

In October, a timetable was set for work on the remaining greens. The green contours would be kept in their original design except for two greens that received only minor contour changes. Re-grassing was the only other change.

Temporary greens were mowed into fairways in late September even though they would not be used until August 1988.

In April 1988 and again just prior to re-grassing in August, a Verti-Drain was rented as an existing "soil" was a push-up variety with little or no drainage tile installed. This deep-tine aerifier has proven itself often per-

forming a renovation process almost as good as totally rebuilding a green substructure.

After deep-aerifying, the process was similar to Butler National's, except Inverness stripped the sod before applying methyl bromide. Then the seedbed preparation began by verticutting in four directions into the thatch layer.

"You couldn't buy the excellent 'cushion' effect that the thatch provides at any cost," Duich said.

Seeding was done with a drop seeder, in two directions, at 5/8ths of a pound pure live seed in each direction. Turf covers were ordered to the specific size of each green and used as erosion control during seed establishment. Germination was in three days. The covers were removed in five days and would be used only with the threat of a gully washer.

In November, the covers were again used to guard against winter desiccation.

Inverness Club members were pleased with the results and greatly appreciated Walker's communication prior to, during, and after the renovation.

Another "Top 100" club needing its greens renovated was Prairie Dunes Country Club in Hutchinson, Kansas. Superintendent Douglas Petersan, like Walker, did extensive research and members gave him a two-year lead time to deep-aerify his greens before the renovation began.

Petersan recommended to the board of directors that with Prairie Dunes' set of agronomic circumstances, it was not necessary to remove the sod. After each extensive deep-aerifying, the plugs were removed and the holes were filled with straight sand. The final result was that the substructure was rebuilt without the time and expense of literally starting from scratch.

Methyl bromide was applied. Then, during September 1989, the greens were overseeded with Pennlinks and opened for play April 1, 1990.

HARD WORK PAYS OFF

Petersan was then offered and accepted the golf course manager's position at Baltimore Country Club last September. The club had already approved a renovation process to the Five Farms Course's greens before Petersan was hired, so work could begin immediately.

Five Farms was designed by A.W. Tillinghast in 1926 and, like the other "Top 100" clubs, its members did not want to do a total rebuild of their greens. They wanted their original architectural greens contours kept intact.

They hired course architect Brian Silva to restore the greens to their original size as the square footage had shrunk over the years. The putting surfaces averaged 5,100 square feet before renovation and, once restored to their original size, averaged 7,000 square feet.

Petersan installed new greens irrigation as the existing heads would not properly water

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Breeding success

A partial listing of superintendents who have totally renovated all 18 greens using the methyl bromide method:

Oscar L. Miles and Edward L. Fischer, while at Butler National GC, Oak Brook, Ill.

Thomas F. Walker, at Inverness Club, Toledo, Ohio.

Douglas Petersan, while at Prairie Dunes CC, Hutchinson, Kan., and recently at Baltimore (Md.) CC.

Mark Yoder, at Scioto CC, Columbus, Ohio. Robert M. Randquist, at Southern Hills CC, Tulsa, Okla.

David H. Kroll, while at Wilmington CC, Montchanin, Del.

Don B. Sweda, at Beechmont CC, Cleveland, Ohio.

D.J. Pakkala, while at Medina (Ill.) CC.

Scott A. Azinger, at Davenport CC, Pleasant Valley, Iowa.

Timothy Kelly, at Village Links of Glen Ellyn (Ill.).

Brian Chalifoux, while at Olympia Fields (Ill.) CC.

Douglas G. Myers, at Youche CC, Crown Point, Ind.

Julius D. Albaugh, at Westmoreland CC, Skokie, Ill.

Peter V. Leuzinger, at St. Charles (Ill.) CC.

Stephen L. Frazier, while at Meridian Hills CC, Indianapolis, Ind.

Chris L. Hague, at Hazeltine National GC, Chaska, Minn.

Charlie Hutson, while at Muirfield Village GC, Dublin, Ohio.

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ON THE GREEN

Mission possible

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the newly enlarged greens.

Petersan could not begin employment full-time until last Oct. 1, so he flew to Baltimore each weekend during September to coordinate and implement the renovation process. As the frequent flyer miles improved, so did the greens.

"We used the Verti-Drain three times, using solid tines so the undesirable subsoil would not be brought to the surface. The holes were filled with straight sand along with the thatch layer after the sod was removed," Petersan said. "We did not remove the sod at Prairie Dunes, but did at BCC, proving that each club's renovation must adapt to their local condition."

Factors in the decision include:

- The amount of thatch. If there is a lot, the sod usually should be stripped.
- The feeling by some superintendents that stripping sod will change green contours.
- The "gut feeling" of club members.

Seeding rates with Pennlinks were three-fourths pound pure live seed in two directions per 1,000 square feet. Petersan had the luxury of closing the course as his members played on the other 18-hole layout.

ONE MORE SUCCESS STORY

Mark A. Yoder of Scioto Country Club in Columbus, Ohio, recently renovated his greens with another unique set of circumstances. Scioto was designed by Ross in 1916 and was remodeled in the early 1960s by Dick Wilson, who fully restored the bunkers and putting surfaces to their original design.

In the last 30 years, the greens had become about 80 percent poa annua. The other 20 percent was Old Orchard creeping bentgrass that was stolized. The greens had to be hand-watered in the heat of the day and seed head production during the spring and fall provided inconsistent playing conditions.

Yoder took advantage of having the greens closed during renovation by restoring all the greenside sand bunkers. He stripped the sod, found the "original" sand/topsoil delineation, repaired and/or added drainage pipe, and then re-sodded the sand bunker banks and in between the greens and bunkers with bluegrass.

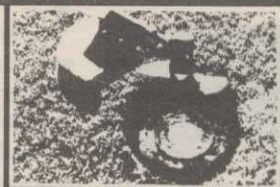
Meanwhile, he built temporary greens, from scratch, on the par-3s that did not already have bentgrass fairways, and then sodded them. The 150-yard markers were relocated in relation to the temporary green locations; the temporary course was laser-measured for scorecards; the course was played from one set of tee markers instead of the customary three sets; the ladies still teed off from their respective markers; and the membership was kept happy.

Yoder closed the regulation greens the third week of August 1991 and chose not to strip the sod off. His procedure was similar to the other clubs in that he used methyl bromide. Deep-aerification, accomplished the two previous falls, was repeated before re-seeding with Pennlinks. A pythium preventive application of a granular Subdue was applied for added insurance.

The green contours were not changed, another advantage of doing this type of renovation to maintain the original character of the course design.

The Pennlinks seed was pre-germinated before seeding in three directions at a combined rate of 1-1/2 pounds pure live seed per 1,000 square feet, as the seed was blended with fine grade Milorganite for consistency.

"The greens were opened on May 1, and the members said it was definitely worth all the time and effort involved," Yoder said.



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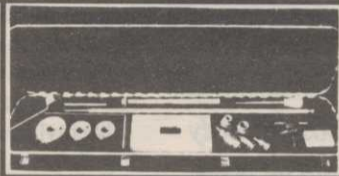
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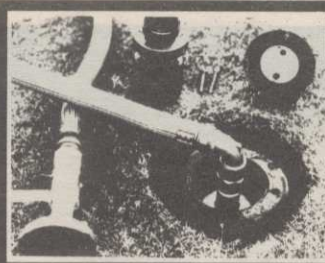
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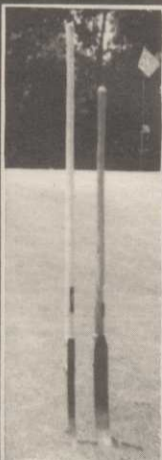
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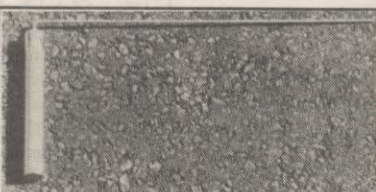
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