

Pile on the Potassium, Among Other Things

By Larry Aylward, Editor

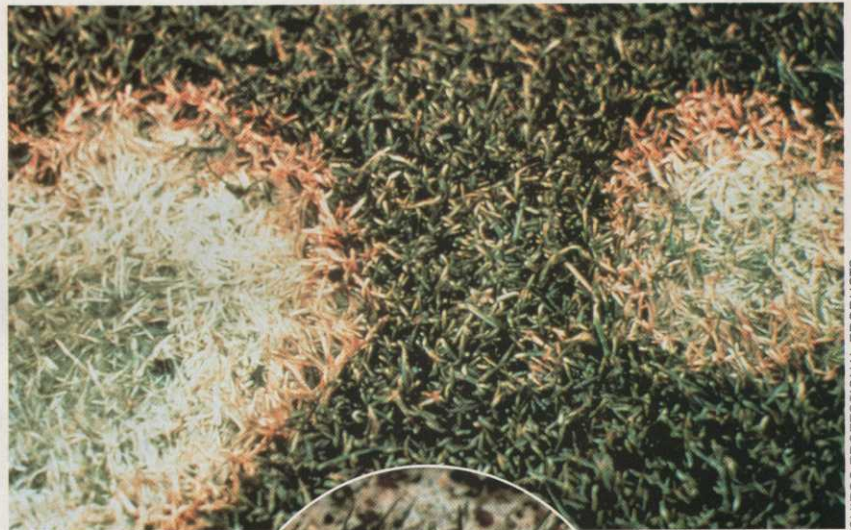
Bill Spence, superintendent of The Country Club at Brookline (Mass.), is still scratching his head about the wacky winter of 2000-2001, which wreaked havoc on golf courses throughout the Northeast.

The winter featured a few nasty freeze-thaw spells that spelled doom for golf course greens, fairways and tees. Spence says he's never seen anything like the turf loss Mother Nature inflicted on his course and others.

Knowing what the veteran Spence experienced last winter, we called him to get his take on preparing a course for snow, ice and blustery winds. He offered good advice, but he also recommended we call superintendents who are tending turf in Canada and are more accustomed to winter's unpredictability and spite. In fact, Spence says he's going to solicit the help of his Canadian counterparts to combat winter kill.

We contacted Nancy Pierce, superintendent of the Links at Crowbush Cove in Charlottetown on Prince Edward Island, which is north of Nova Scotia and surrounded by the cold waters of the Atlantic Ocean. We also spoke with Jim Skorulski, USGA agronomist for the Northeast Region. Between them, Pierce, Spence and Skorulski know something about preparing golf courses for winter's wrath. Here are their tips:

- Proper drainage is vital to keep water pockets from freezing, Skorulski says. "In any area where the course is pocketing water, you're at the greatest odds of losing turf to crown hydration injury," he explains.
- Don't mow your course too late



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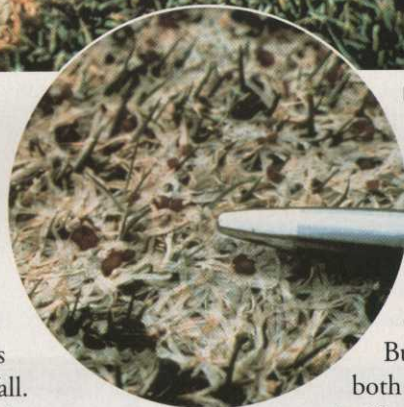
in the fall, Spence says. Last winter, Spence says he noticed that the courses in his area damaged most by winter kill were the courses whose crews mowed late in the fall.

"I generally shut down my mowing in mid-October," Spence says. "The golf course gets a little fuzzy, but it seems to help."

■ Pile on the potassium, Pierce says. In Canada, most superintendents apply more potassium than nitrogen annually. Pierce says potassium helps make turf hardy during the winter.

"We have sand greens at our course and we put down 7 to 8 pounds of potassium compared to 4 to 5 pounds of nitrogen," Pierce says. "It helps."

■ Proper timing of fertilization and fungicide applications is vital, Spence says. At The Country Club, Spence and his crew spray greens, tees and fairways in November with a



Correct timing of a fungicide application in the fall is important to control snow mold.

fungicide to control snow mold.

But Spence and Pierce both warn that fungicide can't offer much protection to turf that's been covered by ice and snow for six months.

Spence and his crew fertilize for the final time in early October while the turf is still growing. "We do a dormant application but that's just before it snows around Thanksgiving," Spence adds.

■ In late November or early December, Pierce and her staff apply a heavy topdressing to greens. "It's the last thing we do," she notes.

But it's important not to mat the topdressing material in the greens so it can provide a physical barrier to ice formation around the crowns of the turf, Pierce says. "If the crowns die, the turf dies," she adds.

■ Try to grow more bentgrass on greens, Skorulski says. "Bentgrass can tolerate winter kill much more than annual bluegrass, which has the lowest cold temperature tolerance," he says.

■ Timely aeration is important — but not too late in the fall when snow and cold temperatures are looming, Pierce says.

"You don't want to do it too late because you want some recovery," she explains. "But you also want some holes so any surface water will drain into them and protect the crowns."

■ Cover greens with reliable materials to protect them from the elements. Pierce doesn't use covers in the winter, but she says several Canadian superintendents rely on them to shield greens. Spence says he uses covers on 12 of his greens that are shaded and have had previous problems with ice.

A popular technique in Canada is to put a cover on a green, place about 18 inches of straw on top and add another cover. "The straw keeps the green dry and acts as a good insulator," Pierce says.

Other superintendents use Styrofoam to cover greens. Spence uses a black plastic-woven product that's about three-eighths of an inch thick.

■ If greens are covered with ice, superintendents should try to melt it. Spence says sunflower seeds and activated charcoal will help.

■ In Canada, some superintendents employ ventilation systems to gain proper air exchange, Pierce says. Grass still breathes when covered by snow and ice and produces carbon dioxide — and too much carbon dioxide can be toxic to the covered turf. A ventilation system, which can be easily constructed with 4-inch perforated drain pipe, allows the carbon dioxide to escape.

■ Paint your greens. When the ice and snow subsided early last year, the tennis club across the street from The

Country Club suffered severe damage to its poa annua playing surface.

"Ninety-nine percent of the surface was cooked ... except the lines where the areas were painted," Spence says.

Turf experts believed the paint sealed the crowns of the turf and protected it from the freeze-thaw cycles. Spence is considering painting his greens this fall. "Folks who have done it in the past have had good luck," he says, noting that superintendents

should not use metal-based paint.

■ If you have a problem green that's more susceptible to winter kill and you know it's going to be damaged, Pierce advises you to build a temporary green in the fall.

"If you build it early in the fall, you'll have a nice putting surface by the spring," she adds. "It will make it easier for golfers to accept the fact that a green is out of play if they have a half-decent surface to putt." ■

The Worst Winter Kill They'd Ever Seen By Larry Aylward, Editor

They came from throughout the country last March to witness the startling developments that transpired at The Country Club at Brookline (Mass.) and other golf courses in the Northeast. "They" were college turf professors and other turf experts. The "strange developments" were several cases of the worst winter kill the professors and turf experts had ever seen in the area.

"The last time I saw turf loss like that was in 1977 at Pebble Beach GC when we were in the third year of a drought and the first year of not being able to water our fairways," recalls Bill Spence, superintendent of The Country Club and former superintendent of Pebble Beach.

"It didn't matter [last year] if you were at a big-budget or low-budget club — you suffered," says Jim Skorulski, USGA agronomist for the Northeast Region. "[The weather] didn't take any prisoners."

Spence and Skorulski aren't exactly sure what caused the turf devastation. But they agree it had something to do with the wacky winter, which included severe temperature swings.

"We had a heavy rainstorm prior to December, and the water froze after it," Spence says. "At the beginning of January, most of the courses around here had a couple of inches of ice on them. That kind of scared me."

Then it snowed several inches soon after. After about three weeks, Spence and his crew removed the snow from the greens at The Country Club and melted the ice. Most of the greens were in decent shape.

In early February, however, Mother Nature dropped 8 inches of snow on the area. Then it got warm and the snow began to melt. Then it got extremely cold

and the melting snow froze quickly.

Spence and Skorulski believe the freeze-and-thaw-cycles, especially the latter sequence, led to the turf loss at The Country Club and other courses.

"You couldn't walk on these courses in the early spring because the smell of the decomposition would knock you over," Spence says. "The courses smelled like sewers."

Spence says greens with poor drainage or abundant shade were wiped out.

"Annual bluegrass (poa annua) was the major victim," he adds. "My greens are a mix of bent and poa, and the poa got cooked."

"What's interesting is the greens that were annihilated were greens we rarely have problems with," Spence adds. "But the greens we normally have problems with weren't damaged badly. This was true at other courses."

The veteran Spence, who has worked in all types of weather conditions, knows how to prepare his course to combat winter kill — but not last winter's destruction.

"I don't think there's anything that could have been done," Spence says. "We may never see anything like this again."

But Spence learned a lesson. "Every once in awhile you find out who's the boss," he says. "There's no doubt in my mind that it's Mother Nature."

Skorulski agrees the damage was the worst he's seen in the Northeast, but superintendents working there could have it worse. "In Montreal and eastern Canada, superintendents deal with this kind of winter kill routinely," Skorulski adds. ■