Superintendents can beat annual snow mold nemesis, but not easily

By Peter Blais

Superintendents generally agree that snow mold is the major disease Northern courses have to worry about as they prepare for winter. “We see it on our greens, tees and fairways,” said Kevin Ross, head superintendent at Falmouth (Maine) Country Club. “It’s a problem every year.”

Added Jim Latham, director of the U.S. Golf Association Green Section’s Great Lakes Region: “It’s a major problem throughout the northern tier of states. We had more gray snow mold problems than usual this past winter because of the heavier-than-normal snow cover.”

Host grasses include many varieties of bentgrass, bluegrass, ryegrass and fescues. The two main snow molds are gray (typhula blight) and pink (Microdochium poae).

Gray snow mold is prevalent on snow-belt Northern courses where snow stays on the ground for three months or more without a thaw. Michigan State University Professor J.M. Vargas wrote in the second edition of Management of Turfgrass Diseases. It can be found in combination with pink snow mold, but its range generally doesn’t extend as far south.

Gray snow mold grows and infects at temperatures between 30 and 55 degrees Fahrenheit. On infected turf, circular gray patches ranging from 3 to 12 inches in diameter begin appearing when the snow melts. Pink snow mold, generally, is more prevalent in areas like the Pacific Northwest with extended periods of cool, wet weather but little snow cover. It is also a problem. Vargas wrote, in any area with a cool, wet spring or fall with some winter snow cover.

Pink snow mold infection occurs below 30 degrees. Without snow cover, the symptoms are circular, reddish-brown spots from 1 to 8 inches in diameter. With snow cover, spots range from tan to whitish-gray to reddish-brown and from 2 inches to 2 feet in size.

Proper cultural practices can help curb snow mold. Grass should not be lush heading into winter, Vargas wrote. The last nitrogen application should occur between mid-August and mid-September if gray snow mold is the major problem. Specific dates for final fertilizer treatments on pink snow mold are more difficult to determine because temperatures and seasons tend to vary more where pink snow mold is prevalent.

Dormant fertilizer feedings are still possible, but should be done in conjunction with effective fungicide applications.

Chemical management is often necessary to combat snow mold fungi, especially on putting greens. However, if left untreated, bentgrass fairways can also fall prey to gray snow mold. Snow mold can kill sections of bentgrass fairways and annual bluegrass will often fill in.

“I am not opposed to annual bluegrass fairways?” Vargas wrote, “but those courses must be kept in top condition.”

Continued on page 24

No straw, no hassle in new technique using Microfoam, polyethylene and Velcro

By Mark Leslie

KESWICK, New Brunswick, Canada — Unnatural measures for unnatural situations. That’s the equation for success for Kent Crayton, superintendent at Macatawa Provincial Park Golf Course here.

Embattled with the harsh winters of Canada and tired of struggling with straw in common practice, Crayton has taken innovative steps to beat the beast. He has devised his own cover, with the help only of a commercial stitcher, and it appears to be the equal or superior to the current in protecting greens from winter kill.

“This hasn’t really been tested enough,” he said. “I need a winter where there will be four to six inches of ice cover. We get big rains in January and we get ice buildup and winter kill that destroys the whole green. When that happens, you have to reseed. The green’s out of play for a month or two, and you can lose a lot of money.”

The Crayton solution? Last winter, instead of covering his greens with a foot of straw beneath a tarpaulin, he covered five using quarter-inch-thick Microfoam and breathable polyethylene mesh which is UV-treated on the bottom.

Using 72- by 90-inch sheets of each, he sandwiched the Microfoam between the polyethylene. The top polyethylene sheet was coated with water-proof spray. He had a commercial stitcher double-stitch the three-piece cover around the edges and add reinforced eyelets 18 inches apart, so that it could be held down with tent pegs.

“It breathes and can be rolled,” Crayton said. “The water-proofing makes the water run off. The insulated foam is going to run off. The insulated foam is going to breath and you can roll it up as a good insulator.”

This year he has modified these covers. He has reduced the size to 24 by 30 inches, making them much easier to move around. And Velcro has been sewn around the edges so the pieces can be Velcro-locked together.

The larger pieces, he said, became so heavy that he needed to haul them off the greens with a tractor. Through the small eyelets, I still have eyelets on the outside and I can easily add on if I have a bigger green... There will be a couple of tent pegs along the inside with the Velcro, but not many.”

Crayton said the quarter-inch Microfoam has about the same R value, as a foot of straw, and it eliminates the labor involved with straw.

He said straw is cheaper over the short term but more expensive long-term. Straw costs about $3 a bale and it takes 100 bales to do one of his 8,000-square-foot greens, he said. Estimates for smaller greens run 30 to 40 bales.

The Microfoam and polyethylene covers cost about $300, but Crayton believes the covers last five years or so before UV rays start to deteriorate them.

After two winters, the Crayton-style covers...
Continued from page 1

will minimize the impact of a pesticide?

"To an uninformed person, the use of some products is like putting a gun in their hands. For 99 percent of products we have found no negative effects and this would be a waste of research effort. But for a few, you may have a problem if you don't proceed correctly. We there may be a problem."

The Green Section and university researchers will "take some basic studies and put the information into more real-world situations and have a positive story to tell on how to use a product and not have any environmental impact," Kenna said. "This is stuff not for scientific journals but for superintendents."

While the new funding will include two or three projects dealing with Best Management Practices, the remainder will support further investigation of pesticide-nutrient fate and attempts to improve models to determine pesticide fate, Kenna said.

"The American public is totally ignorant about pesticides," he said. "They do not understand the concept of quantification of risk."

To most people, the mention of any trace of a pesticide being discovered means danger even though pesticides are found naturally, he said, adding people do not know:

• The mere presence of a pesticide does not mean ill effects.

• The dose makes the poison.

• Chemicals behave in a consistent and predictable way.

Kenna paraphrased University of Florida toxicologist Chris Borgert, who said if chemicals didn't behave that way you could eliminate the Food and Drug Administration because there wouldn't be any drugs.

"People wouldn't be receiving antibiotics and chemotherapy, for instance," Kenna said, "because you could not predict what was going to happen. And even though you could administer a dose, the results would be so inconsistent, you'd never know whether to give it to a person."

"So, it's this failure that we're coming to grips with," he continued. "People have no idea what it means if the USGA releases information that there were 2 parts per billion of a certain pesticide found in leaching from a green. That is the crux of our situation. We have to take it to the next step and start explaining what it means."

Research from the past three years is undergoing peer review and later will be published as a book in 1995. Scientists intend to present the findings at a meeting of the American Society of Agronomy in Seattle the week of Nov. 13.

Among the findings Kenna cited:

• Research has demonstrated that nitrogen leaching is minimal, the turf/soil ecosystem enhances pesticide degradation, and the current agricultural models (particularly Groundwater Loading Effects of Agriculture Management Systems) are inadequate at predicting the fate of pesticides and fertilizers applied to turfgrass maintained under golf course conditions.

• At Rutgers University, a new nematode was developed and released, holding promise for control of white grubs equal to some insecticides.

• Researchers at the University of Kentucky have documented several beneficial predators of white grubs and cutworms that can help reduce pest egg population.

• Pennsylvania State University runoff plots irrigated with six inches of water per hour yielded nitrogen and phosphorous amounts less than or equal to that found in the irrigation water itself.

• Dislodgable pesticide residues were only significant immediately after a pesticide was applied to turf.

• Pesticides break down faster in the turfgrass environment than what is typical when these materials are applied to agricultural crops, according to most preliminary results.

WINTER PREP

Chemical companies attack snow mold

Continued from page 22

• PBI/Gordon Corp.'s flagship product is Tereneec SP, which combats gray snow mold, pythium and brown patch, according to Central and North-west Regional Manager Earl Tracy.

• Since 1987, Banner has been Ciba's main product to combat snow mold, according to Doug Houseworth, manager of technical support in the Turf and Ornamental Department. Banner is very effective against pink snow mold, he said. It works well on Typhula incarnata, a gray snow mold found primarily in the eastern United States and Canada.

But it is less effective in heavier-snow-cover areas such as upper Michigan where the Typhula ishiokian strain of gray snow mold is found, Houseworth added.

• DowElanco has marketed Rubigan AS for about 15 years, according to Mark Urbanowski, coordinator of the USGA Cooperative Sanctuary Program is coordinating a meeting in early November with other wildlife organizations to devise a research funding proposal for issues dealing with wildlife on golf courses.

Microfoam and Velcro key to experiment

Continued from page 22

ers start paying for themselves compared to straw. Plus, he said, "you have far less labor putting the covers on and off."

Last winter, Crayton said, his greens "wintered better than they have in the last few years. I'm optimistic. If I get a lot of ice, I'm not going to get complete kill. Some of the covers will still be there and the greens will green up come spring."

Crayton is rebuilding the greens on his 18-hole facility and plans to add one per year of his self-made covers to protect the old greens until they get rebuilt. "We're rebuilding two greens a year. Hopefully, when I get the new greens built to USGA (U.S. Golf Association) specs, they will have good drainage and won't puddle, so I'll have less need for the covers," he said.

He suggested that superintendents interested in his method experiment by making a small Crayton cover and trying it on a problem green or tee.

He also stressed that covers should be kept out of the sunlight while in storage. • • •

When the greens come out of the winter and the covers are removed, Crayton recommended using breathable covers on them.

"Once spring comes, the greens have to be able to breathe more than when they're in a dormant state," he said. "Breathable covers protect them from the cold weather and allow them to warm up quicker, increasing the temperatures and acting almost like a greenhouse so the grass germinates quicker. I've seen greens germinate two weeks faster with a covers green than without."