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While Supplies Last ... 

As stockpiles of mercury-based snow mold controls dwindle, Northern superintendents hustle to find alternatives

BY BRIDGET FALBO

When the Minnesota State Legislature passed a law in 1994 banning the sale of products using mercury, golf courses were especially hard hit — there were virtually no other effective options for controlling snow mold. The legislation came on the heels of a decision in 1993 by the manufacturers of Calo-Clor, the leading mercury-based fungicide, to cancel the product’s federal registration. The company knew any attempt to defend the label against an EPA special review was fruitless.

From that point, the golf course management industry, especially in Minnesota, knew that the end was near for controlling snow mold with mercury-based fungicides.

But now, after five years of university and industry research at golf courses ...
courses, superintendents in the north country have found workable substitutes for the mercury-based products. But the legislation brought about changes in cultural and application practices — and a lot of worry on the part of superintendents who are trying to open courses as early in the year as possible.

"Treating for snow mold is the most critical application a golf course in Minnesota makes all season," says Dave Krupp, owner of Minneapolis-based Precision Turf and Chemical, and a 26-year industry veteran.

Minnesota’s growing season is short. Successful golf course revenues depend on starting the season early. Outbreaks of snow mold can cause loss of revenue and strain working relationships between superintendents and management. In harsh cases of snow mold, damaged greens might not return to healthy turf until July.

"The main use for (Calo-Clor) was for snow mold on golf course tees and greens," says John Sierk, pesticide regulatory consultant for the Department of Agriculture in St. Paul, Minn. "Golf course groundskeepers felt it was the most effective alternative."

Sierk explains that Minnesota law and the federal action banned the sale of pesticides containing mercury compounds, but allowed for their use until stocks were depleted.

"Mercury products were the most efficacious for snow mold control because of their persistence," Krupp says. "They lasted throughout the long snow-covered season."

Stockpiling and alternatives

In an effort to keep the ire of club owners and members at bay, some course superintendents stockpiled the fungicides, which was legal, but not in the spirit of the law. A survey by the Minnesota Golf Course Superintendents Association in 1996 revealed that Calo-Clor was used for snow mold treatment two years after its ban.

But many superintendents quit using Calo-Clor, says Ward Stienstra, a recently retired University of Minnesota turf pathologist and a recognized expert in snow mold research. Even though some courses have stockpiles of Calo-Clor, they are using alternative chemicals to treat snow mold, adds Jon Powell, a turf pathologist at the University of Minnesota.

"You can get excellent control with these products as long as they are put down before snowfall," he adds. Stienstra and Powell agree that the alternatives are successful in treating snow mold. "They have been as good as mercury," Stienstra says, "although one may argue that we may not have as much residual carryover in the spring of the year."

He adds that if a course experiences extended snow melt in March, then additional wet snowfall, another application would be necessary to prevent pink snow mold from developing.

Powell says that the change from mercury to alternative chemicals has changed application methods. [Superintendents] have to make due with combinations of fungicides rather than one applica-}

Continued on page 84
While the supplies last...

Continued from page 83

While the supplies last...

Field tests at the University of Minnesota indicated that the following two combinations are most effective against snow mold pathogens:

• A fall application of Chipco 26GT at 4 fluid ounces, PCNB at 4 ounces and Daconil Weatherstick at 8 fluid ounces per 1,000 square feet.

• A fall application of Heritage 50wg at 0.4 fluid ounces, Turfcide 400 at 12 fluid ounces (1 gallon per 1,000 feet) both averaged a disease rate of 0%.

Prior to the first snowfall, Nicol applies Daconil Weatherstick to the greens and tees. The combination treatment has increased the cost of preventing snow mold, but Nicol said that the few extra thousand dollars spent is worth it.

Although he proactively changed his application technique, Nicol believes the ban was unnecessary because the government hadn’t proven that mercury entered lake ecosystems through proper golf course application.

“The MGCSA testified in hearings against the ban for two reasons,” Nicol explains. “No investigation had been done to prove it affected ground water, and the high-tech respirators and clothing worn by applicators helped protect them.”

But when the ban went into effect, MGCSA supported the research and use of alternative chemicals.

A little goes a long way

Ed Swain, a research scientist at the Minnesota Pollution Control Agency, also says there’s no direct evidence that the use of mercury-containing pesticides cause environmental harm. “But we’ve made the reasonable conclusion that it contributes to the accumulation of mercury in the environment,” Swain adds.

The problem with mercury is that a little goes a long way. MPCA research indicates that about one drop of mercury falls annually on Minnesota lakes through precipitation. But as mercury moves through a lake’s food chain and into the tissues of fish, its strength can be magnified up to one million times. That one drop is enough for the Minnesota Health Department to recommend restricting consumption of fish from 90 percent of the 700 lakes that have been tested for mercury.

MPCA scientists believe that most mercury reaches aquatic ecosystems through air pollution, rather than through runoff and ground-water as was assumed at the time of the ban. However, Swain says the likelihood that the mercury could become airborne during application to a golf course supports the original decision.

Coping

Superintendents have found that a combination of enhanced turf management skills and a cocktail of chemical solutions can be successful in controlling pink and gray snow mold. Although the weather plays a major role in snow mold development, proper fall turf-care practices can control pathogens that cause snow mold, Stienstra says.

First, regular sprayer tune-ups and accurate calibration are critical, Stienstra says. Application should take place on a dry course and when weather will allow it to dry.

Stienstra urges superintendents to take steps to promote vigorous turf conditions in the fall to ensure healthier spring rebounds. But he cautions that over-fertilization can result in turfgrass continuing to grow and becoming matted under the snow. He recommends mowing well into the fall to counter this.

Lastly, as most superintendents know, well-drained soil with limited compaction increases the health of the plants to ward off disease. (See sidebar above for recommended applications in Minnesota.)

The bottom line

The days of complete confidence in snow mold control are over. But with each passing year, superintendents are gaining new alternatives and insights into the fight against the disease.

Falbo is a freelance writer who lives in Albertsville, Minn.
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PHONE (_________) ______ FAX (_________) ______

INTERNET/E-MAIL ADDRESS __________________________

5. If you work for a golf course, how many holes are on your course?
   ○ A 9    ○ B 18    ○ C 27    ○ D 36+    ○ E Other (please specify) ______

6. Are you the person responsible for golf car purchasing/leasing?
   ○ A Yes    ○ B No __________________________

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

7A. If yes, which of these products do you specify, buy or approve?

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<td>Assistant Superintendent</td>
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<tr>
<td>Director</td>
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<td>Research Professional</td>
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500,001-$500,000

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January/February 1999
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5. If you work for a golf course, how many holes are on your course?

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

7. Are you directly involved in purchasing decisions for your facility?

1. My primary business at this location is: (fill in ONE only)

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The Five-Minute Guide to the GCSAA Show

By now, you've probably heard and read a zillion words about February's GCSAA Conference & Show in Orlando, so we'll spare you the usual stuff and give you our five-minute preview.

Size does matter
The show will be huge. Expect 22,000 or more. Orlando has historically been the best-attended site for the event, thanks to the easy access for Southeastern superintendents who normally can't attend because of peak-season job responsibilities.

Orlando ad infinitum
Note the weary looks on the faces of the golf car manufacturers and other industry representatives who will have just spent a grueling week in the same place during the PGA Merchandise Show.

People are talking
The top three topics of conversation around the show floor and hospitality suites will be 1) Jobs, 2) Jobs, and 3) Jobs. Related topics: The growing need for GCSAA membership standards, ethics code violations (job poaching), salary stagnation and assistants competing for superintendent's positions.

Hats off?
Now that Jacobsen is just one of the Textron brands, what will attendees who've religiously collected "Jake Hats" find when they rush to the Textron booth? Golfdom knows (but we promised not to tell) and collectors won't be disappointed.

Pearls of wisdom at the Opening Session
Barbara Bush? Apparently, George couldn't make it because of the pressing demands of gloating about his successor's impeachment.

Old Tom
What can we say about Jimmy Patino? How about, simply, that he is a gentleman, a visionary and a better friend to superintendents than most will ever know.

A deserving selection, particularly when compared to yet another celebrity or tour player.

Rock of ages
How old are the guys in Blood Sweat and Tears? Their performance contract for the GCSAA President's Dinner Show includes a clause calling for chilled Geritol in their dressing room (insert rim-shot here).

Blatant self-promotion
Don't forget to drop by the Golfdom booth (#417) on the show floor to help us celebrate the rebirth of the industry's oldest and newest magazine.
OUT IN THE STREET

We asked Orlando-area superintendents, concierges from leading hotels and other insiders to help us compile their recommendations for the best ways to maximize your trip to the GCSAA Show.

Best dining with the kids
The Rainforest Cafe at Walt Disney World & Animal Kingdom
1900 Park Fare, The Grand Floridian Resort
Chef Mickey’s, the Contemporary Resort
Covington Mill, Disney Hilton
Jungle Jim’s, Church Street

Best sports bars
ESPN, Walt Disney World Boardwalk
Orlando Ale House, Kirkman Road
Front Row, International Drive
JB’s Sports, S. Kirkman Road
The Player’s Grill at Pointe Orlando, International Drive

Best local bars and entertainment areas
Church Street (take your pick)
Washington Street (Kit Kat Club, One-Eyed Jacks)
Barbarella’s (dancing)
Saphire Supper Club (live music)
The Laughing Kookaburra, Wyndham Palace, (live band, dancing)
Downtown Disney West Side/Pleasure Island

Best-kept secrets (cool tourist activities)
Wekiva Spring (canoeing and swimming)
Old-fashioned airboat rides in Christmas, Fla.
Canoeing and airboat rides in Kissimmee, Fla.
Leu Gardens
Bok Tower, Lake Wales
Complimentary sundown champagne, Wyndham Palace Hotel
Lake Buena Vista for dynamite views of Disney fireworks

Things to avoid
Friday traffic on I-4 and International Drive
West side of I-4 access from Church Street
Noon lunch or 7 p.m. dinner at any theme park/tourist area

Best of Central Florida
French restaurant—Le Coq Au Vin, South Orange Avenue
Green fees under $50—Highlands Reserve GC. U.S. 27, north of I-4
Nearby public courses—Diamondback, Grenelefe West, Southern Dunes
Haines City
Falcon’s Fire & Celebration—Kissimmee

Tips for the show
Pace yourself
Wear comfy shoes
Take only the literature you really want
Drink in moderation
If you can’t remember someone’s name, call them “Bud,” “Pal” or “Chum”