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## **Designs on Golf**

**ARCHITECTURE** 

new study found that superintendents, general managers and club pros spend the equivalent of 20 days per year sitting in job-related committee meetings.

Considering that their time could be better spent, this space offers one example of efficient and expedient committee work:

#### **Women's Golf Committee Meeting**

Dulwood Plantation Country Club, The Harry "Oop" Willis Memorial Meeting Room, Aug. 9.

Committee Members Present – Marge Treehugger, Nina Wiffowitz, Carol Boresten, Marilyn VanDerschank, Gloria Humdrum.

**Staff Members Present** – Superintendent Dave Stimp, Assistant Superintent Miles Organite.

**Staff Members Not Present** – General Manager Heinrich von Meshugge and Director of Golf Terry "Coldtop" Johnson.

The meeting was called to order by Marge Treehugger at 6:59 p.m.

#### **New business**

- Plans for the two-day Women's Fall Harvest Golf Tournament were discussed. Nina Wiffowitz said the committee settled on an African Safari theme for October's annual 36-hole golf extravaganza.
- Carol Boresten thanked superintendent Dave Stimp for carrying out last year's event with its Hawaiian Luau theme. Marge Treehugger reported that a good time was had by all, though many complained that the imported orchid leis interfered with their golf swings.
- Boresten reported that Stimp and his assistant Organite will wear beige safari uniforms, while the maintenance and pro shop staff will wear Rastafarian shawls complimented by leopard-themed fila hats.
- Stimp asked if those were the hats former football great Jim Brown wears when he's not doing time.
  - Boresten asked who Jim Brown was.
- Stimp said, "Never mind." Organite said he would report back to Carol as soon as possible with cap sizes for the entire maintenance staff.
- Stimp asked what the committee had planned this year in the way of golf course setup.
  - Marilyn VanDerschank reported that her

# A Meeting of the Golf Course Minds

BY GEOFF SHACKELFORD



NINA WIFFOWITZ
SAID THE
COMMITTEE
SETTLED ON AN
AFRICAN SAFARI
THEME FOR
OCTOBER'S ANNUAL
36-HOLE GOLF
EXTRAVAGANZA

committee has purchased 18 limited-edition alabastrine leopard statues from the Home Shopping Network for use as the front nine tee markers. Eighteen faux ivory elephant tusks have been rented for the back nine tee markers.

- VanDerschank stated that the committee has rented two large pink flamingos and a 20-foot tall inflatable giraffe to display in the wetlands next to the forward tee on No.14.
- Stimp expressed concern about installing these features because two large alligators have been nesting in the wetland.
- Boresten also reported that unique tissue dispenser's with a leopard design have been ordered for the on-course restrooms. Dave said he would make sure they were immediately taken away after play concludes to prevent the looting issues of the past.
- The committee thanked Stimp and Organite for showing up to their meeting unlike the rest of the staff. They were excused at 7:19 p.m.

#### **Old business**

- Wiffowitz and Gloria Humdrum both expressed concern that Stimp and Organite seemed unenthusiastic about this year's theme.
  - Debate ensued.
- VanDerschank said she believes Dave Stimp purposely mows the fairways on Tuesday mornings during women's play hours. Wiffowitz and Boresten concurred.
- Treehugger disagreed, stating that Dave and Miles do a wonderful job maintaining the course and that they also mow fairways on Friday mornings when the seniors play.
- Heated debate ensued. Topic tabled for further discussion.
  - Meeting adjourned at 7:55 p.m.

Contributing editor and curmudgeon Geoff
Shackelford can be reached at geoffshac@aol.com.

# TURFGRASS TRENDS

DISEASE MANAGEMENT

## **Study Examines Snow Mold Solutions** for Northwest

By William J. Johnston and Charles T. Golob

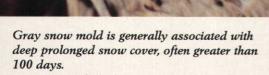
ink snow mold (Mirodochium patch) and gray snow mold (Typhula blight) are the most prevalent and destructive winter diseases on cool-season turfgrass in the northern United States. They are especially destructive in the Intermountain Northwest where deep snow cover may last four to five months.

Pentachloronitrobenzene (PCNB, Quintozene) has been use to manage these diseases in turf on golf courses for many years. When used alone over time, pathogen resistance may develop, as well as other turf and environmental problems. We sought

to identify new chemistry and combinations of compounds that could be used in rotation with PCNB.

Research was conducted on golf course bentgrass (Agrostis stolonifera L.)/Poa annua golf greens and nurseries during a three-year period (2000-2003). In locations with mild to moderate winters, many of the older chemistry fungicides used alone, or in combination with a compound with newer chemistry. gave good control. In locations with prolonged snow cover, combinations of two and possible three fungicides are needed for adequate control.

Numerically (but not statistically different from all other treatments, overall sites and years), the



treatment with the best control with good spring turfgrass quality was Medallion 50WP + Banner MAXX 1.3MEC + Daconil Ultrex 82.5WDG.

Traditionally, fungicide applications are the primary means to control or manage (terminology preferred by Vargas, 1994) pink snow mold and gray snow mold.

Evidence suggests that resistant strains of snow-mold fungi have developed with continued use of fungicides (Chastagner and Vassey, 1982). PCNB phytotoxicity has also been reported, especially when PCNB is used at the upper end of the labeled rate

### Continued on page 66

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#### Continued from page 63

of application, when overlapping of application occurs or when applications are made during warm weather (Smith et al., 1989). Chlorsis has also been noted in turf and caution should be used with repeat applications after periods of rain or during mid-winter thaws (Burpee, 1988).

Nontarget effects, both detrimental and beneficial, have been reported on putting greens by Landschoot et al. (2001). Pentachloroaniline, a degradation product of PCNB, has been found in golf green leachate (Johnston and Golob, 2003 unpublished data). Therefore, it is desirable to identify efficacious alternatives to use in rotation with PCNB. Washington State University is currently conducting snow-mold fungicide trials in Washington, Idaho and Montana to identify such compounds (Golob et al., 2001). The availability of new snow mold products will be a major benefit to superintendents in areas of prolonged snow cover susceptible to snow-mold diseases.

We wanted to compare the efficacy of new and old fungicides, primarily combination products and new experimental chemistry, at several sites in the Intermountain Northwest.

A second goal was to assist manufacturers in obtaining labels for new products for use on golf courses in the Intermountain Northwest.

#### The Whitefish project

In late October/early November 2000 and 2001, treatments were applied to a Penncross Continued on page 68

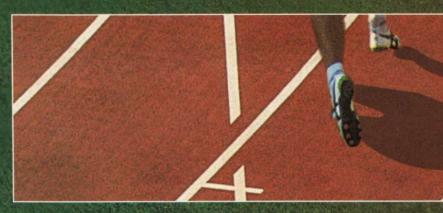
#### TABLE 1

The efficacy of several different fungicide combinations, compared to PCNB, for pink snow mold and gray snow mold control on a creeping bentgrass/annual bluegrass practice green at Whitefish Lake Golf Course in Whitefish, Mont. Fungicides applied 10/31/00. Rated 3/29/01.

| Fungicide Treatment        | Rate (oz., fl. oz., or lbs./1,000 ft <sup>2</sup> ) | Disease area | *Turf quality |
|----------------------------|---|--------------|---------------|
| Medallion 50WP +           | .25 oz.   | 1.3 a        | 5.3 ab        |
| Banner MAXX 1.3MEC +       | 2 fl. oz.   |              |               |
| Daconil Ultrex 82.5WDG     | 2.4 oz.   |              |               |
| Chipco 26GT 2F+            | 4 fl. oz.   | 1.7 a        | 5.7 a         |
| Signature 80WDG+           | 4 oz.   |              |               |
| Terraclor 75WP             | 4 oz.   |              |               |
| Medallion 50WP +           | .25 oz.   | 2.7 a        | 4.7 abc       |
| Banner MAXX 1.3MEC +       | 2 fl. oz.   |              |               |
| Terraclor 75WP             | 4 oz.   |              |               |
| Medallion 50WP +           | .5 oz.  | 3.3 a        | 4.7 abc       |
| Banner MAXX 1.3MEC         | 3 fl. oz.   |              |               |
| Medallion 50WP +           | .25 oz.   | 3.3 a        | 4.7 abc       |
| Banner MAXX 1.3MEC +       | 2 fl. oz.   |              |               |
| CGA 245704 50WDG           | .4 oz.  |              |               |
| Chipco 26GT 2F+            | 4 fl. oz.   | 5.7 a        | 4.7 abc       |
| Daconil Ultrex 82.5WDG+    | 3.6 oz.   |              |               |
| Terraclor 75WP             | 4 oz.   |              |               |
| Medallion 50WP             | .5 oz.  | 6 a          | 5.3 ab        |
| Medallion 50WP +           | .5 oz.  | 6.3 a        | 4 d           |
| CGA 245704 50WDG           | .4 oz.  |              |               |
| Banner MAXX 1.3MEC +       | .4 oz.  | 6.3 a        | 4.3 cd        |
| CGA 245704 50WDG           | 3 fl. oz.   |              |               |
| Chipco 26GT 2F+            | 4 fl. oz.   | 6.7 a        | 5 abc         |
| Prostar 70WP               | 3.75 oz.  |              |               |
| Terraclor 75WP             | 6 oz.   | 7.7 a        | 4.7 abc       |
| Non-treated control        | 0   | 65.7 b       | 2.3 e         |
| LSD (P=0.05)               |   | 16           |               |
| +Tinf avality anta-1 1 0:0 |   |              |               |

<sup>\*</sup>Turf quality rated 1-9; 9 = excellent. Figures labeled with the same letters are statistically the same.

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#### Continued from page 66

creeping bentgrass/Poa annua (10 percent) practice green at the Whitefish Lake Golf Course. Treatments were also applied in 2002, but disease development was not severe enough to warrant rating in spring 2003.

Treatments were applied with a carbon dioxide(CO2)-pressurized (40 pounds per square inch) (psi) boom sprayer with XR11004 VS flat-fan TeeJet nozzles using a 52-gallon per acre water carrier rate. Individual plots were 5 feet by 10 feet in a randomized complete-block experimental design with three replications.

During both winters, snow cover began in late November and remained on the plots approximately four months. Plots were rated in late March/early April for disease (2001, about

70 percent gray snow mold, T. ishikariensis, and 30 percent pink snow mold; 2002, essentially 100 percent gray snow mold, 90 percent T. ishikariensis and 10 percent T. incarnata, with a trace of pink snow mold) and turfgrass quality (quality rated 1-9; 9 = excellent turf quality).

Disease infection was high (nontreated control 66 percent) at Whitefish during the winter 2000-2001 (Table 1). All fungicide treatments had significantly less disease than the nontreated control. Although not statistically different from several other treatments, numerically the best control (less than 2 percent disease) was given by Medallion + Banner MAXX + Daconil Ultrex and Chipco 26GT + Signature + Terraclor 75WP. No fungicide treatment was statis-

Continued on page 70

#### TABLE 2

The efficacy of several different fungicide combinations, compared to PCNB, for pink snow mold and gray snow mold control on a creeping bentgrass/annual bluegrass practice green at Whitefish Lake Golf Course in Whitefish, Mont. Fungicides applied 11/1/01. Snowcover 11/26/01 to 4/7/02 (132 days). Rated 4/10/02.

| Fungicide Treatment     | Rate (oz., fl. oz., or lbs./1,000ft <sup>2</sup> ) | Disease area | *Turf quality |
|-------------------------|--|--------------|---------------|
| Medallion 50WP +        | .5 oz.   | .7 a         | 7 a           |
| Heritage 50WDG          | .4 oz.   |              |               |
| Heritage 50WDG +        | .4 oz.   | 1.7 a        | 6 a           |
| Banner MAXX 1.3MEC +    | 3 fl. oz.  |              |               |
| Daconil Ultrex 82.5WDG  | 5 oz.  |              |               |
| Medallion 50WP +        | .33 oz.  | 2.3 a        | 6.3 a         |
| Banner MAXX 1.3MEC +    | 3 fl. oz.  |              |               |
| Daconil Ultrex 82.5WDG  | 5 oz.  |              |               |
| Turfcide 400            | 12 fl. oz.   | 2.3 a        | 6 a           |
| Medallion 50WP +        | .5 oz.   | 2.5 a        | 6 a           |
| Banner MAXX 1.3MEC      | 4 fl. oz.  |              |               |
| FF II w/14-3-3          | 6.5 lbs.   | 2.7 a        | 7 a           |
| Medallion 50WP +        | .3 oz.   | 2.7 a        | 6 a           |
| Heritage 50WDG +        | .4 oz.   |              |               |
| Daconil Ultrex 82.5WDG  | 5 oz.  |              |               |
| Medallion 50WP +        | .5 oz.   | 3 a          | 6 a           |
| Daconil Ultrex 82.5WDG  | 5 oz.  |              |               |
| Chipco 26GT 2F          | 4 fl. oz.  | 3 a          | 6 a           |
| Daconil Ultrex 82.5WDG+ | 5.5 oz.  |              |               |
| Turfcide 400            | 8 fl. oz.  |              |               |
| Fungicide V             | 6 lbs.   | 19 b         | 4.3 b         |
| Medallion 50WP          | .5 oz.   | 22.3 b       | 3.7 bc        |
| **Plant Helper          | 5.9 fl. oz.  | 63.3 d       | 1.7 c         |
| Non-treated control     | 0  | 36.7 c       | 2.7 c         |
| LSD (P=0.05)            |  | 13.8         | 1.4           |

<sup>\*</sup>Turf quality rated 1-9; 9 = excellent. Figures labeled with the same letters are statistically the same.

<sup>\*\*</sup>Plant Helper is a liquid concentrate that contains a fungus: Trichoderma atroviride



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Continued from page 68

tically better than PCNB (Terraclor 75WP) for disease control.

All treatments had turfgrass quality superior to the nontreated control (Table 1). Although not statistically different from several other fungicide treatments, numerically the best spring turfgrass quality was given by Chipco 26GT + Signature + Terraclor 75WP.

Disease infection was moderate (nontreated control 37 percent) at Whitefish during the winter 2001-2002 (Table 2). There were statistical (P = .05) differences among treatments. Except for Plant Helper, which showed no disease control, all fungicide treatments had significantly less disease than the nontreated control. Although not statistically different from several other treatments, numerically the best control (less than 1 percent disease) was given by Medallion + Heritage. No fungicide treatment was statistically better than PCNB (Terraclor 75WP) for disease control.

April 2002 most treatments had turfgrass quality superior to the nontreated control (Table 2). Although not statistically different from several other fungicide treatments, numerically the best spring turfgrass quality was given by Medallion + Heritage and FF II with 14-3-3.

#### The McCall project

In late October 2000 and 2001, treatments were applied to a Providence creeping bentgrass nursery at the McCall (Idaho) Golf Course. Continued on page 72

#### TABLE 3

The efficacy of several different fungicide combinations, compared to PCNB, for pink snow mold and gray snow mold control on a creeping bentgrass nursery at McCall (Idaho) Golf Course. Fungicides applied 10/26/00. Rated 4/30/01.

| <b>Fungicide Treatment</b> | Rate (oz., fl. oz., or lbs./1,000ft <sup>2</sup> ) | Disease area | *Turf quality |
|----------------------------|--|--------------|---------------|
| Medallion 50WP +           | .25 oz.  | 10 a         | 6.7 a         |
| Banner MAXX 1.3MEC +       | 2 fl. oz.  |              |               |
| Daconil Ultrex 82.5WDG     | 2.4 oz.  |              |               |
| Medallion 50WP +           | .5 oz.   | 20 ab        | 5.7 ab        |
| Banner MAXX 1.3MEC         | 3 fl. oz.  |              |               |
| Banner MAXX 1.3MEC+        | .4 oz.   | 21.7 ab      | 5.7 ab        |
| CGA 245704 50WDG           | 3 fl. oz.  |              |               |
| Medallion 50WP +           | .25 oz.  | 28.3 abc     | 4.7 bc        |
| Banner MAXX 1.3MEC +       | 2 fl. oz.  |              |               |
| Terraclor 75WP             | 4 oz.  |              |               |
| Chipco 26GT 2F+            | 4 fl. oz.  | 35 abcd      | 5 abc         |
| Daconil Ultrex 82.5WDG+    | 3.6 oz.  |              |               |
| Terraclor 75WP             | 4 oz.  |              |               |
| Medallion 50WP +           | .25 oz.  | 41.7 bcd     | 5 abc         |
| Banner MAXX 1.3MEC +       | 2 fl. oz.  |              |               |
| CGA 245704 50WDG           | .4 oz.   |              |               |
| Chipco 26GT 2F+            | 4 fl. oz.  | 50 cde       | 3.3 cde       |
| Prostar 70WP               | 3.75 oz.   |              |               |
| Chipco 26GT 2F+            | 4 fl. oz.  | 56.7 de      | 4.3 bcd       |
| Signature 80WDG+           | 4 oz.  |              |               |
| Terraclor 75WP             | 4 oz.  |              |               |
| Terraclor 75WP             | 6 oz.  | 68.3 ef      | 3.3 cde       |
| Medallion 50WP             | .5 oz.   | 84 f         | 2.7 de        |
| Medallion 50WP +           | .5 oz.   | 91.7 f       | 2 e           |
| CGA 245704 50WDG           | .4 oz.   |              |               |
| Non-treated control        | 0  | 94 f         | 1.7 e         |
| LSD (P=0.05)               |  | 26           | 1.7           |
| +T ( ": : 1400             |  |              |               |

<sup>\*</sup>Turf quality rated 1-9; 9 = excellent. Figures labeled with the same letters are statistically the same.