

MAINTENANCE



BRIEFS

THE VENICE G&CC TAKES HOME CONSERVATION AWARD

SARASOTA, Fla. — The Sarasota County Conservation Committee in partnership with Sarasota County Environmental Services has selected The Venice Golf and Country Club as a recipient of its 2003 Resource Conservation Award. The annual award recognizes those who take a leadership role in promoting conservation of the county's natural resources. The Conservation Committee is a coalition of representatives from local businesses, civic organizations and government. The Venice Golf and Country Club is the first golf course to be recognized by the committee.

MGA NAMES MCMANAMIN

NORTON, Mass. — The Massachusetts Golf Association (MGA) has named Tom McManamin superintendent of its newly opened Norton Golf Facility. McManamin comes to the course from Worcester Country Club where he was first assistant superintendent. McManamin earned a certificate in turfgrass management from the University of Massachusetts at Amherst in 2002.

THOMPSON GOES TO GREATE BAY

SOMERS POINT, N.J. — Greate Bay Golf Club has named Kenneth B. Thompson superintendent. Thompson spent the last 15 years as superintendent of Stone Harbor Golf Club in Swanton and brings 20 years of industry experience to Greate Bay. Prior to Stone Harbor, Thompson was the second assistant superintendent at Merion Golf Club in Ardmore, Pa.

WHITE JOINS MOUNT SNOW

MOUNT SNOW, Vt. — The Mount Snow Golf Club has named Bryan White its new golf course superintendent. White comes to Mount Snow from Santa Fe, N.M., where he was a superintendent at The Club at Las Campanas, a private 36-hole facility. Prior to Las Campanas, White worked at various golf clubs in Colorado, Pennsylvania and Maryland.

Winterkill research yields new clues

By KEVIN J. ROSS, CGCS and ANDREW OVERBECK

One of the most difficult times of year for Snowbelt superintendents is the moment of truth each spring when they find out how well their winterkill prevention activities worked. Prior to and during winter, superintendents face numerous choices concerning ice and snow removal, free water removal and the use of covers. However, winterkill remains an enigma, because what worked one year does not necessarily work in another year.

Research on winterkill has been going on for decades and a miracle cure is yet to be found. But researchers are focusing in on several aspects of winterkill causes to try and pinpoint the exact reasons why damage occurs.

In general, winter damage is defined as any injury that occurs during the wintertime period. Winter damage can be inflicted by: winter turfgrass fungi (snow molds and cool season pythiums), crown hydration, ice damage (suf-

focation), direct low temperature kill and desiccation. Of these, only true winter diseases and desiccation are understood, while ice cover damage and crown hydration are still not totally understood.

DOES ICE COVER KILL?

For years ice damage has been associated with a gas build-up that occurs just under the ice surface. Under prolonged ice cover, oxygen is depleted from the plant that is still under very low levels of respiration and microbe activity. This results in an accumulation of toxic gases that may result in death of the plant. Superintendents generally follow the rule that *Poa annua* can survive under ice cover for up to 60 days, while bentgrass can survive up to 90 days. This rule, however, is being revisited.

"There is a popular theory that if the ice remains on turf for too long that you end up with dead

cause of suffocation. That is why you see devastating ice damage only once or twice a decade. If suffocation caused damage, people would get it every year because there are parts of the



Significant winterkill damage impacted courses from Minnesota to Maine this year.

turf," said Dr. George Hamilton, assistant professor of turfgrass science at Penn State University. "Why it happens has not been shown or even if it happens be-

country that get extended ice coverage all the time."

While not all of his *Poa annua* data was available at press time,

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Hofstetter: Overtime top budget buster

By ANDREW OVERBECK

LAKELAND, Fla. — Former Meadowbrook Golf/International Golf Maintenance executive Greg Hofstetter has formed a consulting venture to give golf course owners maintenance support without taking over complete control of their operations.

Hofstetter, who was vice president of golf operations for Meadowbrook/IGM for seven years, believes that his new firm, Agronomic Systems, fills a growing need in the golf business.

"Owners, whether they are private, municipal or daily-fee, have a difficult time giving up control to a golf course management company to outsource maintenance when they are not seeing a guaranteed return," said Hofstetter. "Even though IGM assures them they get



Greg Hofstetter

more control, which is true, it is difficult for owners to see that and feel that. That is the biggest single selling challenge. I saw an opportunity to help courses without making them feel like they were losing control."

Agronomic Systems provides golf course evaluations that show courses where and how they could save money. So far, Hofstetter has done evaluations for 23 courses including Valdosta (Ga.) Country Club, Widow's Walk Golf Club

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HoleView teams with Audubon

INNSBROOK, Mo. — HoleView has teamed up with Audubon International to produce environmental yardage books that educate golfers on the benefits of the Audubon certification process.

HoleView recently created a yardage book for Innsbrook Resort Golf Course here, which has been certified as an Audubon Cooperative Sanctuary course. The book brings environmental accomplishments to the attention of golfers.

"Golfer support for environmental quality is key to a course's success in protecting water, wildlife and other natural resources," said Audubon International president Ron Dodson. "The HoleView yardage book invites golfers to take a closer look at how Innsbrook Resort is protecting and enhancing its environment through Audubon certification."

SUPERideas

Early brush gets the worm

We use a carpet dragmat on our greens three times a week prior to mowing. Initially, we were simply trying to knock down the dew and nutrients, plus stand up our turf for an improved cut. We brush five consecutive days after our biweekly vertical mowing during our active growing season, and this is when we stumbled on an awesome integrated pest management tool. We found that we were absolutely destroying cutworms and armyworms by brushing them while they were up feeding in the dark. This has also helped our budget, because now we mechanically control the worms enough to reach an



James Lettau drags the 17th green at Magnolia Plantation to remove both dew and worms.

acceptable threshold without using insecticides.

Now if we could just find something for these mole crickets...

— Brad Stuart, superintendent, Magnolia Plantation Golf Club, Lake Mary, Fla.

Got a SUPERidea? Email yours to aoverbeck@golfcoursenews.com

Carbohydrates may hold winterkill key

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Dr. Dave Minner at Iowa State University has found the same inconsistencies in the first year of his two-year winterkill study.

"We had four inches of snow and four inches of ice on both bentgrass and *Poa annua* for 60 days and it didn't kill the bentgrass," said Minner. "It has

slowed the green up and killed some *Poa* but more died under the dry and open conditions."

CARBOHYDRATES COULD BE KEY

Hamilton said his research shows that ice is far more likely to cause damage if the plant has low carbohydrate levels.

"We looked at carbohydrate levels and we found a connection

between levels of carbohydrates and the ability of the plant to withstand icing," he said. "Stressed turf is more susceptible to ice damage."

According to Interlachen Country Club superintendent Matt Rostal in Edina, Minn., going into winter with stressed turf may have been the cause of the winterkill he suffered on several greens, despite using covers.

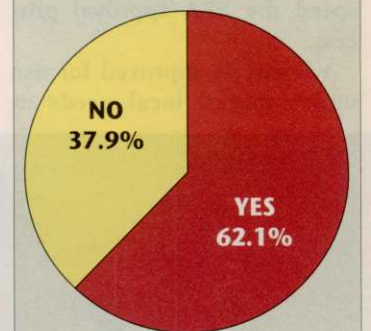
"We had the Solheim Cup last September and that's usually the time we are supposed to be getting everything healthy going into winter. Instead I cut them as short as I ever do and kept them lean on fertilizer, which was not preparing them for winter," said Rostal.

Brendan Parkhurst at Cape Arundel Golf Club in Kennebunkport, Maine, believes his greens got damaged more se-

GOLF COURSE NEWS POLL

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Did you experience winter damage this year?



verely for the very same reason.

"It think it had a lot to do with drought carry-over from last summer," he said. "We didn't get a lot of rain in the fall so the plant didn't get a chance to heal up."

CROWN HYDRATION DEMYSTIFIED

The mechanisms that cause crown hydration are thought to occur when hydrated plants become subject to a rapid decrease in temperature. Crown hydration, or dehydration as is more accurate, happens from both inside the plant tissue (intracellular) and from outside the plant tissue (extracellular).

Intracellular crown dehydration is believed to happen when the water around the cells inside the plant suddenly freezes. This draws the water out of the cell, causing a dehydrated situation and resulting in death of the plant.

However, there is certain debate as to when this can actually happen. James Ross, a researcher at the Prairie Turfgrass Research Centre in Olds, Alta, Canada, believes that the plant must break dormancy and begin to hydrate prior to the freeze process. According to Ross, the transition from winter to spring is the most critical for damage to occur because of the dehardening of the plant.

"Generally when the plant begins to break dormancy, it takes on water, which hydrates the crowns and reduces the simple sugars, which protect the crown through the winter and make it much more susceptible," he said.

Extracellular crown dehydration happens similarly, except it is believed that ice formation outside the plant takes place and pulls the water out of the plant by osmosis. This results in dehydration and may result in death of the plant.

SOLUTIONS ARE FEW

As the research continues, new theories are being developed and the impact of individual weather events are becoming more and more clear. However, with so many variables involved, it will take many years of on-course experience to ever develop a fail-safe strategy to reduce winterkill damage. ■

GOLF COURSE NEWS



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