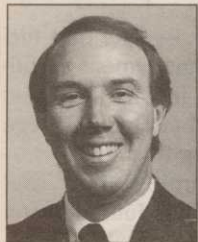


BRIEFS



PGA HONORS WILLIAMS

Golf Course Superintendents Association of America (GCSAA) President Bruce R. Williams has been recognized for his accomplishments by The Professional Golfer's Association (PGA)



Bruce Williams

of America. Williams, superintendent at Bob O'Link Golf Club in Chicago, was elected PGA honorary director at the PGA's annual meeting in San Diego this winter. "Bruce has been instrumental in forging a strong relationship between the PGA and GCSAA," said PGA Honorary President Tom Addis. "He is a strong leader who has demonstrated a commitment to excellence in his profession and in service to the game of golf."

CHALIFOUR SUPER OF THE YEAR

GROTON, Conn. — The Connecticut Association of Golf Course Superintendents (CAGCS) has named Robert Chalifour the 1996 Superintendent of the Year. The superintendent at Shennecossett Golf Course here for 27 years, Chalifour was CAGCS president in 1988-89 and has served on many of its committees. A certified golf course superintendent since 1982, he was cited for his unmatched dedication to the advancement of the profession.

RUTGERS OFFERS INTRO

NEW BRUNSWICK, N.J. — Rutgers University is offering two short courses at Cook College here March 3-4 — Management Skills for Golf Course Professionals and Introduction to Golf Course Turfgrass Management. The \$245 course for professionals is described as an innovative and value-adding workshop designed to provide superintendents and assistant superintendents with hands-on exercises to sharpen their skills in management. People may call Rutgers at 908-932-9271.



AUDUBON CERTIFIED AQUARINA CC

MELBOURNE, Fla. — Audubon International's Cooperative Sanctuary Program for Golf Courses has certified Aquarina Country Club here in environmental planning. Greg Plotner, staff agronomist for International Golf Management, which maintains the course, vowed that it would work get the club fully certified. Scott Campbell is the resident superintendent overseeing the programs at Aquarina.

Golf catches the new technology wave

Restoring greens for play in 24 hrs.

By MARK LESLIE

PEBBLE BEACH, Calif. — Coming soon to a golf course near you: Sand Channel Greens. The company, which promises to add drainage channels to old pushup greens and have them playable in a day, is expanding this winter into Southern California, Arizona, Las Vegas and the Northwest, according to Marketing Director David Lansdale. "And we're looking to establish a machine on the East Coast. We have two machines going full-time now, and we want to be up to five next year."

The former "Cambridge greens" process, which used a vibratory plow so disruptive it took months for turf to heal, also has a whole new life: cutter wheels. With these cutter wheels, the machine can

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The WHoleView image from a flyover shows turf health, from the less healthy browns and yellows to the more healthy greens and dark greens.

Flyovers fore see future of turf health

By MARK LESLIE

Thank you, Dr. John Schott. Schott, of the Center of Imaging Science at Rochester (N.Y.) Institute of Technology, was an early pioneer of digital enhancement of infrared images. Today, combining that technology with Global Positioning Systems, CADD and digital mapping from LinksManager software, golf course superintendents can "see" situations developing on their turfgrass weeks before they are visible to the human eye.

"It's an exciting prospect to integrate all these technologies for the maintenance, construction and redesign of a golf course," said Bob Katula, president of Links Diagnostics, Inc. (LDI) here.

In its agronomic service, LDI flies over a property taking infrared images revealing the photosynthetic rate of the plants

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Taking irrigation into the future

By MARK LESLIE

ST. BRUNEAU, Quebec, Canada — A golf course irrigation control system that may change the industry has been installed at one of the oldest golf courses on the continent, Mont Bruneau Country Club outside Montreal, and at Widow's Walk Golf Course in Scituate, Mass., which will open in July.

"They just might revolutionize the irrigation industry," said Dr. Michael Hurdzan, a golf course architect from

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The mat: a 1-inch-square metal drag covered with a piece of artificial turf-type material.

The drag mat beats snafus from moisture

By TERRY BUCHEN

Superintendents are very happy and fortunate to have the many new pieces of equipment now on the market. Of particular note is the fairway topdressing machine. Most of these new implements can carry 4,000 pounds of top-dressing material, usually more, making top dressing fairways almost as easy as greens.

However, fairways are many times top dressed during the early-morning hours, making for wet, dew-type conditions which can cause a delay in "dragging-in" the top dressing. The top dressing can be wet from natural causes, as well.

One great idea to help drag in wet top dressing, especially a sandy material, is to use a 1-inch-square metal drag mat and lay a piece of artificial turf-type material over the top (attach it with a zip strip plastic-tie material every few inches on all four sides).

This idea really works in helping keep the top dressing from "balling up" and "clogging up" the drag mat, which obviously makes quite a mess and delays dragging until the top dressing is dry. This idea is also especially helpful in getting the dragging done ahead of play, which golfers obviously appreciate.

When the top dressing is wet, for whatever reason, this drag-mat concept can also work quite well when top dressing greens with straight sand, or with a 90/10, 85/15, 80/20 sand/peat moss mixture.



ON THE GREEN

Niemczyk on non-traditional turf treatments



Dr. Harry Niemczyk

Dr. Harry Niemczyk is professor emeritus and coordinator of turfgrass entomology research at The Ohio Agricultural Research and Development Center of the Ohio State University in Wooster. He received his bachelor's, master's and doctoral degrees from Michigan State University. His research on turfgrass insects and behavior and mobility of turfgrass pesticides has been widely published. Recently he has been doing extensive research on biological controls of turfgrass insects.



Golf Course News: Could you describe the progress of your work regarding biological controls for insects?

Harry Niemczyk: I've been studying the effects of entomopathogenic nematodes, parasites that destroy cutworms, grubs and other insects. Several have shown good results. They are introduced live into the soil, seek out the insects, enter their bodies and cause the insects to die.

GCN: What products are showing promise?

HN: We've had some good results on grubs with a product called Cruiser by the Ecogen company. The key is getting the nematodes through the thatch and into the soil. It's hard to introduce them since they can be destroyed by desiccation and ultraviolet light.

LESCO has a product called Vector that's been pretty successful with cutworms on golf greens. It is supposed to be irrigated into the green. But that can be complicated. Vector is often mixed in a spray tank and applied along with other products, like a contact fungicide. But contact fungicides should not be watered in. So you end up applying two products together that have different requirements for post-treatment irrigation. That's a problem. Vector can be effective if it's used according to the label directions.

GCN: Are there any other biological or biological-like

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Intelligent sensors at the heart of Smart Rain

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Columbus, Ohio, who is having the system installed at Widow's Walk for research purposes rather than irrigation control.

Developed by engineers and computer scientists at Smart Rain Corp. here, the system is a network of "intelligent" 12-inch soil probes that can control the entire irrigation system head by head,

gauging water needs by reading soil moisture, temperature and fertilization. Smart Rain sensors communicate to the central control computer through the same cables that energize the valves.

No weather station, nor controller is needed. And because the central computer is voice-activated, the superintendent can call it by walkie-talkie and command it

to do what he or she wants.

Because the system is operated based on soil moisture and temperature, and not on evapotranspiration, Hurdzan said, "You are getting to the heart of [the turf's requirements]. You need to measure water in the root zone, not on some arbitrary figure of what evaporated."

"You don't have the time to read

100 sensors in the field," said Smart Rain President Romain Gagnon, explaining the efficiency of his system, whose sensors are little computers connected in the network that talk to each other and the central computer. "If a course has 170 sensors, they provide 510 pieces of data to read."

To help the superintendent make manual watering decisions, the system includes a graphic Windows software program. It

depicts a map of the golf course and indicates different colors for every sprinkler head according to its soil requirements. Whenever the sprinkler turns red, it means the soil in that area is too hot and needs syringing. When yellow it's too dry and needs heavier watering. Blue, it means it is over-watered. When white, it is frozen.

"At the central computer, superintendents can adjust at what level they want every individual sprinkler to change color," Gagnon said. "They can define what's too cold, too hot, too dry, and too wet, what to fertilize or not fertilize... The colors are there to quickly give them an idea of what's going on in the field. Whenever a sprinkler turns color, you can click on that sprinkler on the computer with your mouse and get precise data about it. When you water, animation shows that on the screen."

While Widow's Walk and Mont Bruneau will start up their systems in July, Smart Rain has only been in the golf industry since January 1995.

Gagnon and Sales and Marketing Vice President Jim Simonini have been marketing the product for a year, getting feedback for adjustments and additions.

"A lot of the concepts we use come from other industries," Gagnon said. "But irrigation is a low-tech business. Industrial control is my background. When I looked at how people were doing things in irrigation, I was amazed."

Soil-moisture measurement has been available for more than a decade, but the device cost \$10,000, he said. Smart Rain engineers developed a much cheaper, little circuit to do the job.

"We did not contribute on the agronomic side," Gagnon said. "The machine cost so much because agronomists didn't have the technical knowledge."

There are three basic technologies in this new system:

- water-sensing technology, which Smart Rain developed;
- Windows technology; and
- Lonworks technology, which allows the sensors to communicate with the central computer. This was developed by Echelon Corp., which is partially owned by Motorola and Toshiba, according to Gagnon.

At Widow's Walk, Smart Rain is being used as "an experimental tool to help us measure soil moisture, fertility and temperature," Hurdzan said. "We're not using them for irrigation control. We're using them for research. We want to measure how quickly and how deep the root zone goes into a frost layer, and how water moves through profiles, and what the soil temperatures are. We want to use them to determine the efficacy of fertilizers and pesticides — how a fertilizer reacts at 52 degrees soil temperature versus 62 degrees..."

Each green has four sensors installed — one at 4 inches and one at 8 inches both at the front and back of the greens.



Over 70% of golfers don't reach the green in regulation. They spend a great deal of time on your approaches, aprons, mounds, or worse, in your bunkers.

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