



Tools of the Trade

Biorationals: A tide of the future in turfgrass care



Moss: Superintendents' brainstorming pays off

THE WORLD OF MAINTENANCE IN '98

The agony and the ecstasy. Misery and joy. Superintendents got the complete package in 1998.

There were the horrors, the struggles and the challenges that accompanied drought and then flood in the South Central states, the fire and then hurricanes in the Southeast, the torrential downfalls from El Nino in the West, and the Ice Storm of the Century in the Northeast. Fairways and roads were washed away, clubhouses burned down, disasters of historic proportions.

Then, there were the thrills of discovering a control for poa annua and moss, and of building golf courses to serve as laboratories to study the effects of maintenance on the environment.

Golf course maintenance is a dynamic field, demanding that superintendents read up and pay attention to the many scientific advances. The next few pages share a glimpse of the top GCN stories from the year.

Notable Quotables



• **'I'd like to get my hands on a 200-acre farm and see what kind of a golf course I could build. Something tells me it would be a little**

unorthodox.'

— *Ed Michaud, superintendent at Sugarloaf Golf Club in Maine, who in the winter at Sugarloaf has built the No. 1 snowboarding resort park in North America, filled with "pipes," "table tops" and "pyramids."*

• **'I would parallel it [control for poa annua] with new drugs for killing cancer tumors. That's how important it is to me.'**

— *David Major, superintendent at Del Mar CC in Rancho Santa Fe, Calif.*

• **'It was scary from the standpoint that I didn't think fire could travel that fast. You could not outrun it.'**

— *Michael Fabrizio, director of golf maintenance and construction for Matanzas and Palm Coast Resort in Daytona Beach*

• **'It sounds odd, but we would love a hurricane or tropical storm right now.'**

— *Bruce Berger, superintendent at Quarry Golf Club in San Antonio, Texas, not long before Texas was hit by a series of storms.*



• **'Our single biggest spring-prep problem is keeping the golfers off the course until the frost thaws out.'**

— *Jerry Faubel, super at Saginaw (Mich.) CC*

By MARK LESLIE

GCN JANUARY

COLUMBUS, Ohio — You may not find the "neem tree" in your dictionary. Nor the words "biorationals" and "naturalites." But they will be playing increasingly important roles in golf course maintenance, according to Dr. Parwinder Grewal, an assistant professor of turfgrass entomology for the Ohio State University (OSU) Extension Service.

Speaking at the Ohio Turfgrass Foundation Conference here, Grewal said some biological controls have succeeded and some have not, but their use has increased tremendously in the last decade — a harbinger of the future.

Piecing together research from OSU, Cornell University and other colleges, Grewal updated the audience on research done on biologicals and biorationals. He defined biological control as the use of a living organism — such as

Continued on page 14

By TERRY BUCHEN

GCN APRIL

SHARON CENTER, Ohio — Research and subsequent answers to turfgrass problems are not always resolved by universities. A great example of networking information has occurred from superintendents, U.S. Golf Association (USGA) agronomists and university scientists nationwide who got together to beat moss.

Chairing the database networking information was D. Frank Dobie, general manager and superintendent at The Sharon Golf Club here. Dobie wrote an article in September 1996 in Northern Ohio Turfgrass News about using a combination of Subdue 2E, wetting agent and spreader sticker, and the database was formed soon thereafter when many superintendents expressed interest in doing further experimentation.

"The most effective method and material in terms of moss

Continued on page 15

GCN JULY

Earthworm fixes...

By DR. DANIEL A. POTTER

Earthworms have been called the "intestines of the earth" because of their importance in breaking down plant litter, recycling nutrients and enriching the topsoil. But on golf fairways, an abundance of earthworms can be too much of a good thing.

Generally, you'll have much healthier turfgrass where earthworms are abundant. Their burrowing reduces soil compaction and improves air and water infiltration. Earthworms enrich the soil with their fecal

Continued on page 13

GCN JANUARY

New biologicals...

By MARK LESLIE

COLUMBUS, Ohio — Questions abound in the arena of turfgrass soil ecology and biology, but Dr. Michael Boehm pointed to a future where biological care plays an equal role in maintenance with chemical and cultural care and the turfgrass' genetic resistance.

The Ohio State University (OSU) assistant professor of plant pathology painted a picture in which current maintenance practices are dominated by chemicals, and where cultural practices

Continued on page 13

GCN APRIL

... Sunlight assessment

By MARK LESLIE

PROVIDENCE, R.I. — Sunlight assessment and digital imaging — two new technologies that are pulling golf superintendents into the computer age — will also help them deal with the difficult task of course renovations, according to a spokesman for the U.S. Golf Association Green Section.

"Frankly, most of the people here have the equipment and capabilities to operate this technology," Dave Oatis, director of the Northeast Region, told the New En-

Continued on page 17

Universities pioneering the way

GCN JUNE

Purdue pursues research

By MARK LESLIE

WEST LAFAYETTE, Ind. — With the help of course architect Pete Dye, multiple donors and a group of students who built it, Purdue University on June 27 will open a golf course that will produce a major five-year study on the effects of golf maintenance on ground and surface water.

Pointing out that environmentalists criticize past corporate-funded studies as biased, Dye said: "What Purdue produces should be the most unbiased report, simply because there is no reason to be biased. Good or bad, no one can argue the findings."

All the money to build the new Kampen Golf Course and fund the research came from private sources, not golf associations or the chemical industry. "I was very much concerned that it not be company funds," Dye said. "We did this with Clemson University at the Ocean Course at Kiawah [in South Carolina], but Kiawah was a pristine piece of ground, so how

Continued on page 15

GCN JUNE

K-State a new breed

By MARK LESLIE

MANHATTAN, Kan. — A new breed of college curriculum, one that opens management avenues to future golf course superintendents, will begin with construction of a prototype Tournament Players Club (TPC) university course at Kansas State University here.

Colbert Hills Golf Course, named for PGA Senior Tour player Jim Colbert, will be many things to many people.

"The positive impact of this project will be far-reaching," said Stephen Mona, chief executive officer of the Golf Course Superintendents Association of America (GCSAA), "a golf management program to train tomorrow's leaders, a research facility to aid the golf industry, and a first-class facility for golf enthusiasts..."

It will provide "unique research and academic opportunities for K-

Continued on page 15

GCN APRIL

UCal Poly transforms trash

By DOUG SAUNDERS

POMONA, Calif. — Dealing with society's trash is an issue that draws little attention from the public until a landfill needs to be created or closed down. After operating a 200-acre landfill on campus property since 1957 in conjunction with the Los Angeles County Sanitation Districts, California State Polytechnic University here hopes to close the landfill and build an 18-hole golf course that will serve as a living laboratory.

The landfill has served two purposes over the last four decades. It has been a repository for the tons of refuse from the growing LA metropolis, and has served as an outdoor lab for waste management, environmental sciences, engineering and agriculture.

"The landfill has been very beneficial to the university from not only an economic standpoint, but also as an educational tool," said Ed Barnes, executive director of the Land Lab and Asset Development for Cal Poly Pomona.

Continued on page 15

TPC Network's clean machines

By TERRY BUCHEN

LAS VEGAS — Keeping maintenance equipment clean is a top priority with superintendents and their staffs, and some high-tech equipment can help.

At The TPC at The Canyons here, superintendent Kim Byron Wood has the latest state-of-the-art cleaning equipment, now used

extensively in the TPC Network.

"Cleaning and waxing our equipment is a top priority, so our equipment will last much longer, will be much easier for our technicians to service and will look new all the time," said Wood.

A pressure washer with a natural gas-fired burner/heater is used by the equipment technicians,

who wax each piece of equipment after washing it and before servicing it. Next to the pressure washer, looking left to right, is a red-colored hose reel with a 1-inch-diameter, high-pressure water hose connected to the irrigation system. Two green-colored signs warn employees not to drink the irrigation water.

A smaller, gray-colored hose reel, and hand trigger-operated wand, are for the pressure washer. Next is another red-colored hose reel that has a high-pressure air hose, with a larger yellow-colored safety sign warning employees to use eye protection.

On the far right side is another red-colored larger hose reel with a 1-inch-diameter, high-pressure hose originating from the irrigation system.

"Our drainage grate has a small screen material over it so grass clippings and other smaller debris does not go into our oil and grease separator vault," Wood said.

Sun assessment

Continued from page 13

gland Regional Turfgrass Conference here. Oatis hailed the sunlight-assessment technology developed by Arbor Com Inc. of Toronto. "It is mind-boggling what they can do with it," Oatis said.

"On difficult sites with difficult memberships, and for particularly important trees, you can use [sunlight assessment] to document and quantify how many and which trees need to be removed" to save shaded turfgrass, Oatis said.

The position of the sun as it rises differs by approximately 22 degrees, depending on location, from the longest day to the shortest. And its angles change over the course of a day and the year.

"So, when we ask which trees should be removed, the answer is different for different times of the year," he said. "If you do a sunlight assessment on just one day of the year, you will make a serious mistake, cutting the wrong trees entirely, or not cutting enough trees."

Using Arbor Com's technology solves the quandary, Oatis said. Setting up a sunlight location device on the green and connecting it to a laptop computer, Arbor Com can provide the exact location of the sun at any hour on any day of the year.

"You map the green and trees and run a shade-assessment program which shows how much light different areas of the green get....," he said. "It can rate which individual trees have the biggest impact on shade. The program also calculates the amount of light you will gain after doing the tree work. It identifies trees, or even branches which are causing problems and quantifies how much you'll gain by doing the work."



The state-of-the-art wash rack at The TPC at the Canyons.



SHOP TALK

The Original and Still the Best!

For many years now, RegalStar® has been recognized as the best and most effective pre-emerge herbicide available for professional turf managers. But now, it's even better than before.



- 1 We've improved the formulation to increase the synergistic action, making it even more effective. Patents are pending for synergistic activity.
- 2 RegalStar® II will deliver superior results at lower rates compared to earlier formulations.
- 3 Additional label uses: home lawns, ornamental beds and nurseries.
- 4 Research proven: Excellent results on cool and warm-season turf; even on newly sprigged bermudagrass.

RegalStar® II

"SUPERIOR WEED CONTROL - THE BEST TURF QUALITY."



Regal Chemical Company • P.O. Box 900 / Alpharetta, GA 30009 • Phone 800-621-5208