THE NEWSPAPER FOR THE GOLF COURSE INDUSTRY

A UNITED PUBLICATION

VOLUME 12, NUMBER 1 JANUARY 2000 • \$7.00

Bug Off!

Mosquito control goes high tech without use of pes-

Tools of the Trade

Take a look inside former GCSAA President Joe Baidy's new maintenance center24



LOPEZ NOW AN ARCHITECT

Nancy Lopez, who has consulted on golf course designs in Japan and the Philippines, is embarking on a career in design. See an interview with Lopez, the Old Tom Morris Award winner, on page 31.

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PERIODICAL

Roundup-tolerant bent looms on the horizon

COLUMBUS, Ohio - The Scotts Co. is developing genetically modified turfgrasses that are resistant to the herbicide Roundup, a potentially major breakthrough that could make it easier for superintendents to control weeds, according to Scotts researcher Dr. Virgil Meier.

Speaking at the recent Ohio Turfgrass Conference and Show here, Meier said a Roundup-resistant bentgrass crop could be ready for harvesting as early as 2003. The Marysville, Ohio-based firm is also researching Roundup-

resistant strains of Kentucky bluegrass and St. Augustinegrass. The bluegrass could be available in 2004.

Among other tasks, the crew at The Valley Club in Sun Valley, Idaho, must maintain the club's platform

tennis court. See Spring Prep section, pages 28-30.

OFF-SEASON? YOU BETCHA!

"This whole area of genetically modified organisms (GMOs) will change how we maintain turfgrass 15 to 20 years from now, starting with the Roundup-resistant bentgrasses

and bluegrasses that will be available in 2003 and 2004," Meier predicted.

Scotts has been testing genetically modified Continued on page 23

Valderrama Declaration affirms stewardship

By TREVOR LEDGER

VALDERRAMA, Spain - "What started as a simple exploration of ecology has turned into a major, complex and dynamic program," said Jo Schatten, chairman of the European Golf Association Ecology Unit in his opening ad-

dress to the U.S.-Europe Golf Environment Summit at Valderrama Golf Club here in November.

Two days later, leaders in golf from around the world were signing the Valderrama Declaration, a statement of intent affirming the golf industry's commitment to environmental stewardship in partnership with such

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Novartis, AstraZeneca to merge, spin-off ag units

BASEL, Switzerland - Consolidation continues in the agrochemicals industry as the boards of Novartis AG and AstraZeneca PLC have agreed to merge and spin-off their troubled agribusiness units to form Syngenta. The \$15-billion deal combines Novartis' Crop Protection and Seeds businesses and Zeneca Agrochemicals.

According to industry analysts, this move may be the first in another round of mergers. The Syngenta deal may affect St. Louis-based Monsanto Co., which earlier had been rumored to be in talks

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Supers giddy about tourney

By A. OVERBECK

MOBILE, Ala. — The four superintendents hosting their peers at this year's GCSAA Golf Championship are feeling emotions of apprehension and excitement as they start to prepare for the event.

"I'd be lying to you if I told that I wasn't feeling the pressure to look good," said Michael Rienzi, superintendent at Kiva Dunes Golf Club. "To me this is big. I'm more nervous about this than I was about Continued on page 25



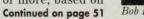
The 18th hole at the Falls Course at Magnolia Grove. The course will host the final round of championship play at the 2000 GCSAA Tournament.

GTCR commits \$100M to new Husband firm

By PETER BLAIS

CHICAGO — GTCR Golder Rauner, LLC has committed \$100 million in equity financing to back former Cobblestone Golf Group Chief Executive Officer James A. (Bob) Husband and his executive team to start Heritage Golf Group, LLC, a new course acquisition/management firm based in San Diego.

The commitment includes an initial investment of \$50 million, with potential to provide up to \$100 million or more, based on







Roundup-resistant bent due in '03

Continued from page 1

grasses for the past several years, Meier said, using rights obtained to the Roundup-resistant gene from Monsanto and the gene gun insertion technology from its inventor, former Cornell University professor John Sanford.

Scotts is concentrating on these varieties because of the large market for these grasses. Bentgrass and Kentucky bluegrass are cool-season grasses used extensively on golf courses throughout the country. St. Augustinegrass is a warmseason turf used on some Southern courses.

Research expenses for genetically modified grasses are very high, Meier explained. Scotts hired 15 people in the past three years to work solely on this project. Even more costly are licensing expenses.

The problem with developing Roundupresistant grasses, opponents argue, is that such species could become a super weed that farmers and homeowners could not control by conventional means. Meier countered that bentgrass and Kentucky bluegrass are generally not considered major weed problems in agricultural circles and can be controlled using other herbicides.

Bentgrass will not cross-germinate with other grasses that are considered agricultural weeds, he added.

What has Scotts' research shown? Scotts has applied Roundup to its test bentgrasses at rates of 256 ounces per acre, four to eight times the recommended rate of 32 to 64 ounces per acre for weed control.

"We looked for injury [to the bentgrass]," Meier said. "There wasn't any. We still have a lot of testing to do to make sure it performs the way we'd like to see a bentgrass variety perform."

Scotts' Kentucky bluegrass has withstood Roundup applications of 128 ounces per acre, two to four times the recommended rate, Meier said.

Scotts is also seeking genes that would provide genetically modified grasses with disease resistance. Those grasses may not be available for another 10 to 15 years, Meier said.

Are there drawbacks to genetically modified Roundup-resistant turfgrasses or GMOs in general? Could they somehow be toxic to people or animals? Could they present environmental or food production problems?

"At this point I'd just say there are issues about whether GMOs should be used at all," Meier said. "The Food and Drug Administration has approved Roundup-resistant and Bt-resistant [for insects] crops in foods and feeds.

The Roundup-resistant gene, Meier explained, is made up of proteins. The proteins are made up of amino acids. The gene is one of several hundred in a healthy-growing cell.

"I'm assuming that if you can eat the stuff, you should be able to walk or play golf on it ... That's the assumption we're making and that's all the evidence at this point. We haven't found any detrimental aspect of the Roundup-resistant

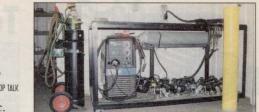
Welding table moves with ease

RCADIA, Mich. - Because their welder, tank and welding table were difficult to move, the maintenance staff at Arcadia Bluffs Golf Club here devised a portable welding table on wheels.

Property maintenance person John Fisk and equipment manager Patrick Sullivan built a designated table on wheels that holds the welder tank off the bottom shelf in a horizontal position, which has plenty of storage room for

clamps, gloves, helmets, goggles, etc.

"We plan to install a permanent vise," said superintendent Paul Emling. "The welding table may be somewhat costly because we outfitted our shop in two areas and our cold-storage area with 220-volt welder outlets. We also purchased a long extension cord for the welder, as it is sometimes easier to take the welder to the equipment than it is the equipment to the welder."



The portable welding table is on wheels for easy movement.

Material costs for the portable welding table were:

2-by-2 by 1/4 angle - 55 feet \$47.25 72- by 36- by 1/2-inch plate \$171.00 72- by 36- by 1/8-inch plate \$36.00 Four castor wheels \$52.00

Figurella: 30 and counting

Continued from previous page

stepdaughter at cosmetology school. Figurella concedes that the head superintendent's job is demanding, costing him time with his children and perhaps a marriage.

There's something inside you that compels you to go there [the course] every morning, to be there at six o'clock," he said. "With my new assistant, I've started going home after eight or nine hours, but I always come back to baby-sit the course later in the day."

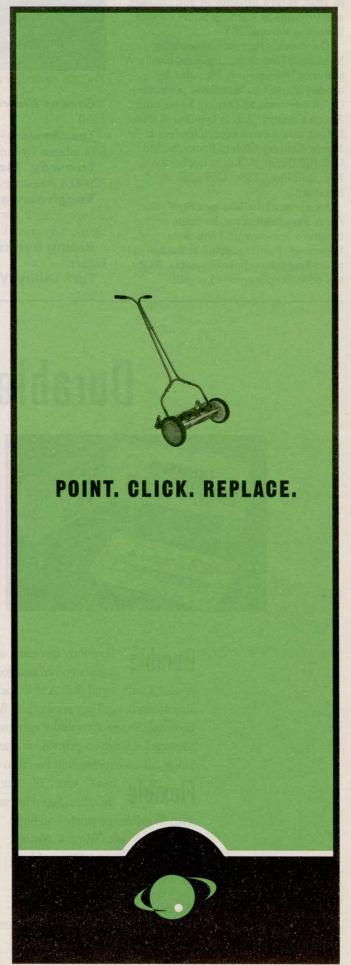
What is the major change he's seen in the past 40 years? **Fungicides**

"We have things now that work," he said. "We used to use fungicides that came from the agricultural industry. They didn't work very well. Now we have specific fungicides that do work well. I'm concerned we may lose some of them. I don't see a new contact fungicide coming out. We have one right now, daconil. If they take daconil from us, I don't know what we're going to do.

We also have more user-friendly products that are safer for the person applying them. We used to use things like lead arsenic that built up in your system. There's been a big improvement in quality.'

As for the future of golf course design and maintenance, he said: "What I don't want to see is Donald Ross greens altered for the new grass cultivars. They have to soften up greens and soften slopes [at older courses] when they plant the new As and Gs. They have to change the contours so there are pin positions. If speed does that to golf, that's wrong. Ross built these greens. If he's the man they say he is, why would you want to alter them?"





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