

GOLF COURSE NEWS

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INSIDE

Irrigation innovations

GCN provides an update on the latest irrigation technologies, products and services.....8

Improving water quality

Flowtronex's Integrated Water Management services to optimize water quality.....24

GOLF COURSE CONSTRUCTION ACTIVITY, AUGUST 2001

OPEN: 30

UNDER CONSTRUCTION: 44

IN PLANNING: 32

Source: National Golf Foundation

COURSE MAINTENANCE

Connecticut courses work to meet water mandate...8
Tools of the Trade at Pegasus's Bermuda Run.....9
Guidelines help beat effluent odds.....10

COURSE DEVELOPMENT

Tripp Davis teams with Craig Stadler.....16
Rick Jacobson on a hot streak.....16
Affordable golf in Silicon Valley.....17

COURSE MANAGEMENT

Cordillera Group busy at Crested Butte.....20
Injured golfer sues White Deere Run GC.....21
Club Car's 1-PASS may be eligible for tax credit...22

SUPPLIER BUSINESS

PBI Gordon unveils SpeedZone herbicide.....24
Simplot purchases products from Eco Soil.....24
Griffin ready with TranXit.....26

PERIODICAL

Bayer to buy Aventis CropScience

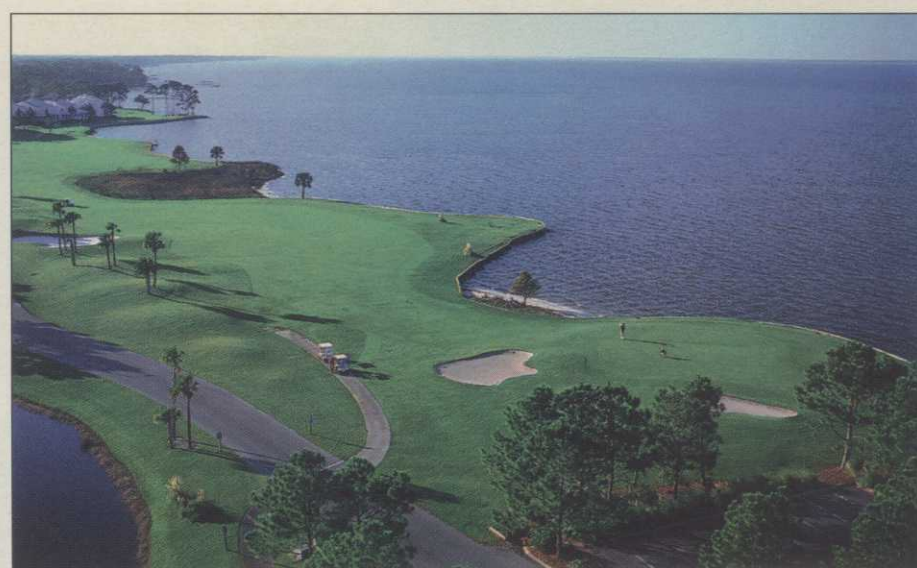
By A. OVERBECK

STRASBOURG, France — Merger mania continues unabated in the agrochemicals business.

After announcing its intention to divest its CropScience division in November 2000, Aventis has reached an agreement to sell the business unit to Bayer AG in a deal worth approximately \$4.9 billion including \$1.7 billion in debt. Schering AG, which owned 24 percent of CropScience, also signed off on the deal. The agreement was announced Oct. 2.

Aventis, which had been in exclusive talks with Bayer since July, has made a strategic shift to be a pure-play pharmaceutical

Continued on page 26



Intrawest Golf's Raven Club at Sandestin

Intrawest launches aggressive strategy to expand Raven brand

Company to add to Raven stable through third party contracts

By ANDREW OVERBECK

SCOTTSDALE, Ariz. — Intrawest Golf is moving full steam ahead with its plan to bring its Raven Golf "brand" to every key market in North America.

While the company owns and manages 19 golf resorts, only five sport the Raven brand. However, that will soon change as the company implements a strategy to add to the Raven stable through third party management contracts.

The first of many anticipated third party deals was announced in late September, with the company taking charge of management at Cabo San Lucas Country Club in Mexico.

"There has been a lot of third party interest in the Raven brand," said Jeff

Stipee, senior vice president for Intrawest Golf. "Courses have approached us because they see the value of being associated with the Raven brand that we have

built. The Raven has become synonymous with great service, which allows us to attract a more discerning customer."

A MONEY MAKER

Attracting loyal, more discerning customers has paid large dividends for the company, which has been enjoying a good run since acquiring the

original Raven course in 1998. All of the clubs are high-end, daily-fee facilities that charge \$95 to \$185 green fees.

"As everyone was going through a really tough year last year," Stipee explained, "our

Continued on page 21



Jeff Stipee

Farris to make design debut in South Dakota's Black Hills

By ANDREW OVERBECK

RAPID CITY, S.D. — Architect Ron Farris is hard at work here on what he considers his official U.S. design "debut." One could think of few better places to launch a career as a golf course architect.

The Golf Club at Red Rock, set amidst the rolling Black Hills of South Dakota, is the perfect setting for golf, accord-

ing to Farris. "We are taking a minimalist approach to the design," he said. "It will be a natural course, we are going let it be what it is."

The layout covers undulating hills and dramatic elevation changes and will feature native grasses and stands of pine trees.

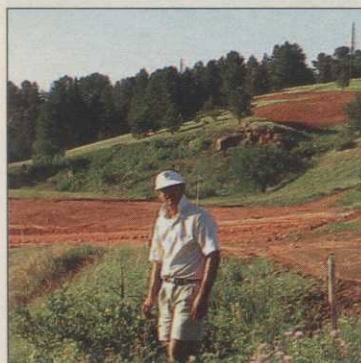
"We are working towards the classical style," noted Farris. "The bunkers will be rugged like Sand Hills with native grasses on the outer edges.

"The elevation changes on the course don't allow us to use long, sweeping lines," he continued. "So we will have more pot-style bunkers."

BUILT FOR LESS THAN \$3 MILLION

The course, which is being

Continued on page 27



Ron Farris on-site at Red Rock

Pesticide residues in grass clippings raise concerns

By JOEL JOYNER

MANATTAN, Kan. — Over a billion pounds of pesticides are sold in the United States annually.

Though an estimated 70 percent are applied for use on agricultural foods and products, golf courses often are targeted when pesticide use issues develop.

While federal legislation is currently focused on regulating pesticide usage at public schools, some golf course superintendents and courses are taking a proactive approach on the issue, particularly with grass clippings, before the government sprays them with new regulations.

One of the main subjects being addressed is the proper disposal of turfgrass clippings that have been



Continued on page 13

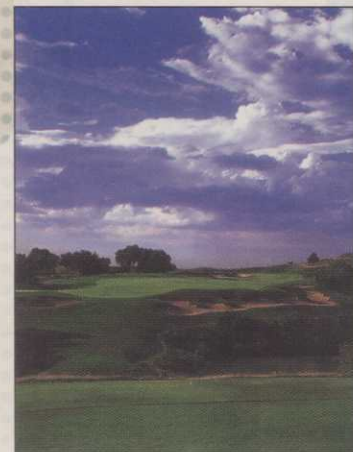
Pesticides

Continued from page 1

treated with pesticides. "Normally, if clippings are scattered over existing turf areas, the pesticides degrade relatively quickly," said James Snow, national director of the USGA Green Section in Far Hills, N.J. "The one thing not to do is dump clippings into ponds or streams."

RECYCLE AND REUSE

For the most part, golf courses return clippings to the soil to be recycled by soil microbes, according to Todd Lowe, USGA agronomist in Hobe Sound, Fla. "Clippings are removed from greens only on most courses, but the topic of clipping disposal is an especially important issue around



A view of the sixth hole at Colbert Hills

equipment washing facilities."

More and more facilities are installing systems that separate clippings and recycle and reuse the water following a filtration and treatment process. "The clippings can then be transported to a compost heap to recycle nutrients back to the environment," said Lowe.

Dave Gourlay, course manager here at the Colbert Hills Golf Course, makes use of Landa's Waterstax wash-water treatment system to reduce potential runoff of pesticides when equipment is cleaned at the facility.

Team building

Continued from previous page

have his or her own locker. Also, putting the employee's name on the locker instills a sense of belonging.

- The typical American lunch, sandwiches, is no match for the elaborate dishes of the Hispanic workforce. Their lunches are more like most American's dinners. Having a minimum of three microwaves and sufficient refrigerator space available is a big plus.

- Taking yearly crew photos and displaying them in the lunchroom is a nice touch. We have our crew photo enlarged and give one each to the staff members. The staff takes these photos home and can explain to their family about the people they worked with and about the work they did. ■

GOLF COURSE NEWS

"We have a contained wash pad station that was installed when the course was built," said Gourlay. "The Waterstax unit uses a process called bioremediation to treat the wash water."

After equipment used on the course is washed, the system removes dirt and turfgrass clippings. "The wash water is then treated with a solution of microbes that break down the waste into carbon dioxide and water," Gourlay said.

The water enters a separate tank and is further cleansed with aeration and additional treatment before it's made available for reuse. "It's capable of treating a thousand gallons a day at a rate of 15 gallons per minute," Gourlay said. "The grass clippings are either dried and redistributed to the course or composted."

PERSISTENCE OF PESTICIDES

Gerald Stephenson and colleagues at the University of Guelph

in Guelph, Ontario, Canada, published a study on the persistence of pesticides in turfgrass clippings this summer. Stephenson recommends not to collect clippings for composting for about four weeks following pesticide treatments.

The research focused on 2,4-D, Mecoprop, Dicamba, Chlorpyrifos and Chlorothalonil in controlled "once-loaded" and "multiple-loaded" compost scenarios.

"Basically, we treated a large



A view of the 7th hole at Colbert Hills

area of turfgrass with these different pesticides, and then we harvested a large quantity and mixed

Continued on page 27

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Pesticides in turfgrass clippings

Continued from page 13

clippings in roughly a 60/40 ratio with tree leaves. We placed the mixture in home composters to monitor the disappearance of pesticides over time," said Stephenson.

The researchers harvested one study the day after pesticide treatments were applied, and multiple-loaded studies were harvested at week intervals. "In about four to five weeks, the pesticide residues were not detectable in the multiple-loaded scenarios," Stephenson said.

"In the once-loaded scenario, although the pesticides were disappearing, the dry weight of the compost was decreasing as well," he said. "The concentration of the pesticides didn't change."

CHANGING CULTURAL PRACTICE

Superintendent Rob Brown at the Martindale Country Club in Auburn, Maine, used to compost clippings at the facility. "We weren't under any restrictions to change our practice at the course, it just seemed the sensible thing

PERSISTENCE OF PESTICIDES			
Estimated total dry weights of compost, 2,4-D, mecoprop, dicamba, chlorpyrifos and chlorothalonil in each composter at the beginning and end of the "once-loaded" composting process.†			
Material	TOTAL DRY WEIGHT (KG/COMPOSTER) +		
	0 Time	9 to 10 wks	Percent decrease
Compost	7.7	3.69	52%
2,4-D	0.818 X 10 ⁻³	0.115X 10 ⁻³	86%
Mecoprop	0.644 X 10 ⁻³	0.137 X 10 ⁻³	80%
Dicamba	0.336 X 10 ⁻³	0.090 X 10 ⁻³	74%
Compost*	12.85	4.21	67%
Chlorpyrifos	1.400 X 10 ⁻³	0.200 X 10 ⁻³	86%
Chlorothalonil	5.040 X 10 ⁻³	0.017 X 10 ⁻³	99%

†Compost consisted of treated grass clippings plus untreated tree leaves (60/40, v/v).
+Mean of 3 composters.
*The studies with chlorpyrifos and chlorothalonil were conducted in a different year than the study with 2,4-D, mecoprop and dicamba.

Information provided was originally printed by the International Turfgrass Society Research Journal Volume 9, 2001, in an article titled: Persistence of 2,4-D, Mecoprop, Dicamba, Chlorpyrifos, and Chlorothalonil in Composted Turfgrass Clippings.

to do," he said. "About three years, we stopped composting grass clippings altogether and decided to leave them on the course and in our rough areas."

For Brown, environmental awareness and responsibility prompted his proactive measure toward changing the cultural practice at the course. ■

Farris at Black Hills

Continued from page 1

constructed by two local businessmen as a part of a housing development, is projected to cost less than \$3 million.

The low-cost construction has been achieved, in part, because very little earth has been moved.

"Ron did a great job routing the course," said golf course builder Timothy Furness. "He has laid it into the ground as well as can be done, so there has been minimal earthwork. We did most of the work with just a dozer. It will be a very cost effective project."

There has been some luck as well, admitted Farris. "We were worried about two things – water and topsoil," he said. "The Black Hills are typically light on topsoil, but we found pockets of it as we began digging and have not had to import any. We also drilled wells that gave us access to a local aquifer."

OLD FRIENDS

This is not the first time that Farris and Furness have worked together.

While Farris honed his design skills working with Pete Dye as a project manager in the United States and Japan, Furness was doing the same as a shaper. Farris also designed two courses in Japan – Aygami Golf Club and Miyazaki Sunshine Golf Club – before relocating to South Dakota in 1989.

Back in the States, Farris hooked up with Furness on a job

renovating Scenic Golf and Country Club in Pigeon, Mich.

According to Furness, Farris is doing something special at Red Rocks. "This is going to put Ron's name on the map," he said.

Furness' crew has all 18 holes at Red Rocks roughed in and for the first time is also installing the irrigation system. They will also seed nine holes before winter hits and put down dormant seed for the rest of the course.

"We want to have a head start in the spring," said Farris. "We are putting low-mow bluegrass on the fairways and tees and L-93 on the greens."

Superintendent Rick Witt, formerly the assistant at Minnehaha Country Club in Sioux Falls, is already on board to oversee the grow-in of the course.

AFFORDABLE GOLF

Green fees at Red Rock will be low to compete with the surrounding market.

"The green fees will be around \$30, which will be affordable" said Farris. "We aim to increase the quality of golf but still keep the price reasonable."

The developers plan to recoup most of the construction costs from the sale of the 300 homesites on the 360-acre property.

After having a season to grow in, the course is scheduled to open in spring 2003. ■

Effluent

Continued from page 10

With this storage lake configuration come environmental issues. In some cases, the lake will need to be lined with an impermeable material to ensure the separation of the effluent from the groundwater. Courses should consult with a civil engineering firm to make sure they are in compliance.

• **Storage tank option** – The other on site storage method is the use of a storage tank. The use of a tank can be problematic, as this configuration can be restrictive because of the finite amount of water stored in relation to the fluctuations in daily irrigation demands. Also, it is usually difficult to find a location on a typical course for a tank large enough to store a daily requirement of irrigation water, let alone providing any buffer.

• **Direct supply** – The least favorable way of receiving water is "direct supply." In this method, the course receives the water directly into the irrigation mainline, or booster pump, for direct distribution through the system. This configuration can result in inadequate operating pressure required for proper irrigation equipment performance.

The method of boosting the pressure is difficult, due to fluctuations in the supply pressure. This is primarily due to the fluctuation in flows that are typical of an irrigation system operation. If the supply pressure fluctuates substantially, the irrigation booster pumps cannot respond quickly enough. This is even true with variable frequency drive (VFD) controls. The result can be a high- and low-pressure shutdown of the pump station.

With all of these points to consider, it is important to note that each can have an effect on the amount you will pay for the water. The fees are set on a "cost per thousand" basis. This averages around 20 cents per thousand gallons. This cost fluctuates based on whether the effluent provider will be required to store the water after treatment or if they deliver the water as it is treated. Your effluent provider will want to set a minimum water delivery amount. This should be carefully considered, as this can commit you to water that you cannot use or dispose of. ■

Hal Kilpatrick is president of Irrigation Services Group, Inc. in Delray Beach, Fla.

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New irrigation products

Continued from page 12

Genesis III central control system with integrated graphics. "You can scan a golf score card or layout rendering and create hot spots," Dunn said. "A superintendent can place the mouse over a portion of the course and click to bring up the program opening – larger than anything in the industry – to flush contaminants through."

The company also has released to full production the

