Gunning for better disease resistance

Newest biogenetic research goes biolistic

By Peter Blais

The U.S. Golf Association, seed companies and others are taking their first baby steps into the area of genetically engineered turfgrasses, hoping research will eventually lead to plants that are resistant to many turf ailments.

Recent advances in the technology of transferring genetic material, specifically the biolistic method, has helped make that possible, according to Dr. Peter Day of Rutgers University's Cook College.

Basically this involves taking a plastic projectile with a surface layer of tungsten or gold. It is then coated with DNA containing the desired genetic trait. The projectile is fired with a 22-caliber cartridge toward a steel plate with a small hole. A partial vacuum containing grass cells is on the other side of the plate. The steel stops the projectile, but the DNA continues through the hole and hits the target cells. Some of the DNA penetrates the nucleus.

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Reregistration claims another industry victim

By Hal Phillips

The specter of EPA reregistration has doomed another chemical product to the dustbin of history.

Miles Inc. announced in early April that its Dyrene fungicide products, which contain the active ingredient anilazine, have been voluntarily canceled due to the cost of obtaining data for reregistration support.

"There are a lot of people around here who are sad to see it go," said Rick Robb, marketing manager for Miles. "But it was a business decision. We have another fungicide product (Baleton) pending reregistration and it was too expensive to go ahead with Dyrene."

Continued on page 45

Clemson University to create course/laboratory

By Mark Leslie

A living, breathing, working laboratory in which handicapped and able-bodied people alike can play championship-level golf.

That's what the folks at Clemson University hope to develop on a 250-acre plot of land that contains peach orchards and borders manmade Lake Hartwell on their Clemson, S.C., campus.

"This project hits all the hot buttons," said Bob Wilson, the National Amputee Golf Association national director who is involved as a consultant for the

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New ideas from an old master

Architect Robert Trent Jones Sr. stands on the first tee at his O'Noor Valley course in Birmingham, Ala. Built by Sunbelt Golf Corp., O'Noor Valley is one of eight golf complexes constructed with Alabama state pension funds. For related story, see page 5.

Continued on page 5

Average maintenance expense per hole by region

<table>
<thead>
<tr>
<th>Region</th>
<th>1990</th>
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<tbody>
<tr>
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PKF report says rounds up, maintenance costs down at resort and daily fee courses

By Peter Blais

Signs of recessionary times: Rounds were up, revenues stayed even and maintenance costs went down at daily-fee courses from 1990 to 1991.

That's the message contained in the first "Trends in Resort and Daily Fee Golf" published by the National Golf Course Owners Association and Pannell Kerr Forster Consulting Inc., the accounting firm that also does the "Chibs in Town & Country Report" for the

Continued on page 42
The Irrigation Association (IA) has retained the nationwide collection agency, Kaplan and Kaplan, Inc., to better assist organization members. Kaplan and Kaplan fees are negotiable and the firm can generally close an account in 90 days, according to Gene Piscitelli, owner of Kaplan and Kaplan. However, Piscitelli said there are no easy answers when it comes to success rates on receivables. “There is an array of variables one must factor into the equation,” he said. “Generally speaking, the success rate for all good agencies will depend on the age of the account.”

According to the Commercial Law League of America, the typical success rates for receivables are as follows: For an account 30 days old, the success rate is 93.8 percent; 90 days old, 73.6 percent; 180 days, 57.8 percent; one year, 26.6 percent; and two years, 13.6 percent.

Headquartered in Crofton, Md., Kaplan and Kaplan represents more than 5,500 clients nationwide. Of some 6,000 national collection agencies, Kaplan and Kaplan is one of 75 certified members of the Commercial Law League of America.

To receive information about the firm or about its services, get in touch with the IA office at 703-524-1200 or contact Kaplan’s Bud Waters at 1-800-638-5630.

The FAMEX/Liability Business Insurance Program, sponsored by the IA, is now available to qualified contractors, dealers and designers who assemble, distribute, install and/or design systems incorporating chemigation capability. Coverage can apply as long as the irrigation contractor has no ownership interest in the chemigation system; is not operating systems nor applying chemicals; and is advising operators about the types or uses of chemicals.

For more information about the IA Insurance Program, contact the FAMEX Connection at 1-800-772-5561, or contact the sponsoring agent, Thomas Tumilowicz, with the PDO Group at 1-800-666-4005.

In other IA news, James A. Bormen, a 20-year veteran of the irrigation industry, has joined the Irrigation Association as director of education and technical services. Bormen will be responsible for overseeing the association’s educational programs, building the membership base and enhancing membership programs.

A former district sales manager for Rain Bird, Bormen spent the last 10 years with Automatic Rain Company of Menlo Park, Calif., serving in a variety of positions including operations/marketing manager, sales manager and, most recently, director of training.

Reregistration costs too high for Dyrene

Continued from page 1

How expensive? Robb estimated that reregistration would have cost Miles “in excess of $6 million... And that made it a pretty easy decision.”

According to the EPA’s Lois Rossi, there were also questions as to the long-term toxicity of Dyrene products. The EPA asked that Miles reconduct certain studies, but Miles declined, she said.

Dyrene is the fifth product Miles has dropped since the advent of EPA reregistration laws in 1988. It’s Miles’ second fungicide (Lesan was the other) and third turf product (remember Basanit?) to bite the dust.

The Dyrene example exhibits a foreboding trend in the chemical industry, where once-viable products are abandoned due to the trouble and expense of federal reregistration.

“It’s extremely unfortunate,” said the EPA’s Al Heier, who predicted that a good many fungicide producers won’t reregister their products in the future. “If you work in the turf industry or grow a minor crop in this country, there’s a good chance you’re going to lose a lot of your fungicides.

“If you’re a manufacturer, you have to look at the bottom line. You not only have to come up with the data for registration, you have a maintenance fee to keep it registered, and you have reregistration costs.

There are basically two reasons why a company would decide against reregistration, Heier explained: 1) They have evidence the product is not going to make the grade; or 2) the costs are too high and they can’t justify it.

More and more these days it’s No. 2,” he said.

“We had no reason to believe Dyrene would not have passed muster,” said Dr. Wayne Carlson, manager of product information and regional development at Miles. “It was frustrating because, originally, we planned to go through with the process. But we continued to receive further requests for information (from the EPA).

“Regulations do change, but eventually we decided it wasn’t worth it.”

* * *

Before 1972, companies merely registered their products with the EPA and paid annual maintenance fees, said Heier. But the 1972 Congress planted the seeds of reregistration.

“At the time, we didn’t even know what reregistration meant,” said Heier. “There were no standards for it. We’ve had to develop them over the years.”

That process culminated in 1988 when Congress passed amendments to the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA).

These amendments required all products registered before Nov. 1, 1984 to be reregistered by the close of 1997. Products would be reapproved if you, will only if they met current standards.

When a food-related product like Dyrene is reregistered, the firm must pay a one-time fee of $150,000, according to Rossi. Companies must also pay an annual maintenance fee of $1,100 per product. Furthermore, accumulating the data for reregistration is time-consuming and extremely expensive. Heier offered the following example:

The EPA requires that cancer studies be conducted on both the male and female in two different species; and the testing must be conducted using high, medium and low doses of the product. That’s 12 separate tests, all of which must be conducted over the life history of each animal.

“There are 10 to 15 major studies like this one for each product,” said Heier. “That’s when the dollars flash fast.”

This is what Miles faced when Dyrene came up for reregistration — and the decision was a ‘no-brainer.’

“I can understand the EPA’s role as a regulatory agency,” said Robb. “Its role is environmental protection. Our role in the industry is to provide a product which in turn provides a service.

“But when we can’t make money, it’s gone.”

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