

Cornell prof sees 'hybrid fungus' as next generation of bio-control

■ A new biological fungicide is expected to receive EPA registration this month, according to Dr. Eric Nelson of Cornell University.

The new strain—*Trichoderma harzianum*—is a product of protoplast fusion, a process analogous to plant breeding. In the process, different genetic material is combined to form what Nelson—speaking at the New York State Turfgrass Association Turf and Grounds Exposition—described as a “hybrid fungus.”

The new product will control Dollar spot, brown patch and pythium blight. Nelson described the product as, “A highly effective biological agent,” which can be applied with conventional equipment.

A new company called TGT—whose founders include Cornell researchers—will manufacture the product.

Initial product distribution will be limited to west of the Mississippi. The Wilbur Ellis Co., of Fresno, Calif. will distribute the product.

Nelson said the product is not without drawbacks: it's sensitive to Banner, Rubigan and the triazole fungicides, and is most effective when soil temperatures are above 55-60° Fahrenheit.

Additionally, Nelson said researchers do

CHEMICAL VS. BIOLOGICAL PRODUCTS

	CHEMICAL	BIOLOGICAL
	<u>PRODUCT DEVELOPMENT</u>	
Research/develop.	\$20 million	\$0.8-\$1.6 million
Toxicology testing	\$10 million	\$0.5 million
Patentability	straightforward	risky
Discovery	undirected screens	directed screens
	large numbers	low numbers
	high success	success questionable
Profitable market	\$40 million/yr.	\$1.5-\$10 million/yr.
	<u>PRODUCT USE</u>	
Efficacy	high	moderate
Control spectrum	broad	narrow
Speed of action	typically fast	typically slow
Health/environmental effects	well-established adverse	unknown

Source: Dr. Eric Nelson

not know how the product will react to herbicides or insecticides.

The product is expected to be formulated as a wettable powder, a granule and emulsifiable concentrate.

Nelson said the product has a shelf life of 1-2 years.

In tests conducted on dollar spot from August to October, the product was most effective when applied as a granular in conjunction with a foliar spray.

“There is a delay in the progress of the disease, then it peters out,” says Nelson.

Nelson says that unlike the performance of some chemical fungicides, the new biological product can reduce the populations of pathogens in the soil.

Nelson says the product “worked well”

in spray applications to plots infected with Pythium and Rhizoctonia.

“One of the keys will be various additives—such as surfactants—that give the product better coverage,” says Nelson.

In the area of compost research, Nelson says it has been more difficult to predict how a compost mix will react against diseases in turfgrass.

“There's no good way of knowing that,” says Nelson, who says it's difficult to screen compost mixes for their disease suppression properties.

“We're trying to relate microbial properties (of compost) with disease suppression properties,” says Nelson. “Compost use will improve as we can manipulate the composts more.”

DowElanco responds to 'Eye to Eye' criticism

INDIANAPOLIS—DowElanco took quick issue with points made in the Jan. 12th installment of the CBS television show “Eye to Eye with Connie Chung.”

“Nothing depicted on ‘Eye to Eye with Connie Chung’ should undermine the public confidence in DowElanco and its products,” the company stated in a press release the next day.

The show highlighted several people with health problems that they contend stem from the use of Dursban.

DowElanco makes clarifications in the cases of Jack Kahn, the residents of Building 8 (an office building in Albany, N.Y.), and Tri-County North School District in Ohio.

About Kahn, who claimed he was put out of a pest control job and out of the

workforce because of health problems stemming from his experiences applying Dursban:

“Mr. Kahn's medical records document that he was diagnosed—as early as...1984—as having neurological and immune disorders very similar to those which he now attributes to our product. His first exposure to Dursban was in 1989.”

About Building 8, whose residents claim adverse health effects from Dursban:

“According to the state Department of Health report, the highest levels of Dursban measured in Building 8 were 10,000 times lower than those needed to cause any effect in humans.”

And about the Ohio school children who complained of nausea and other negative reactions from the spraying of

Dursban in their school, DowElanco says this:

“DowElanco has not been named as a party in this suit. A health hazard evaluation by the National Institute of Occupational Safety and Health found that the complaints were likely related to carbon dioxide buildup...in combination with the presence of volatile organic compounds derived from liquid toner used in photocopiers.”

DowElanco concluded:

“We are cooperating fully with the U.S. EPA. We are confident that the Agency's review will reaffirm the wide margin of safety of Dursban products. DowElanco hopes to see the issues raised in the ‘Eye to Eye’ segment resolved by the EPA review.”

—Jerry Roche