

# Musser supports student researching genetic engineering

KNOXVILLE, Tenn. — James E. Bond may not be in pursuit of sinister spies, but the Great Britain native is searching the mysteries of genetic engineering that will help turfgrass professionals for generations.

Developing techniques to transfer desirable traits from one plant to another has earned a \$4,000 scholarship for the 26-year-old doctoral candidate at the University of Tennessee.

Bond was awarded the 1991 Musser International Turfgrass Foundation's graduate scholarship

to complete studies "of tremendous benefit to turfgrasses," according to Dr. Lloyd M. Callahan, UT professor in charge of a DNA research program in the department of Ornamental Horticulture and Landscape Design.

As a direct result of Bond's work, "highly desired traits such as cold-hardiness, herbicide resistance, disease resistance, among others, can be introduced into desired turfgrasses that do not possess this trait," wrote Callahan in nominating Bond for the scholarship.

"This technology is essential for

genetic engineering of plants and the related improvement of crop species," echoed Dr. Peter M. Gresshof, who holds the Racheff Chair of Excellence in plant molecular genetics at the university. "Bond's progress has been excellent despite the intellectual and scientific challenge of the research."

The Musser Foundation was formed by graduates of the turfgrass programs at Penn State University to fund basic turfgrass research through fellowships to outstanding graduate students completing their doctoral work in turfgrass science.

It honors the late Dr. H. Burton Musser, turfgrass researcher and educator at Penn State for four decades who developed Penncross creeping bentgrass.

The foundation is funded primarily by contributions from Penn State alumni and grants from companies in the turfgrass industry. This year, it sought donations from golf course superintendent associations. The Midwest, West Virginia and Florida responded.

Frank Dobie, superintendent at The Sharon (Ohio) Club, was re-elected president at the

organization's annual meeting. Dr. Joseph Duich, head of Penn State's turfgrass program, is first vice president.

Other officers are Tom Burrows, a turfgrass consultant based in Stuart, Fla., second vice president; John Spodnik, superintendent at Westfield, Ohio, CC, treasurer; and Dudley Smith, superintendent at Silver Lake CC, Orlando Park, Ill., secretary.

## Seed research

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als suppress diseases.

"Some materials are being tested on courses in New York and are suppressing diseases very well," Snow said. "The trouble is that we don't know which organisms are causing the suppression. He is trying to identify which organisms are having this effect on diseases. If you can identify the organisms, you can incorporate them into top-dressing materials or sprayable materials ... so that when you top dress greens you can be putting down organisms that suppress disease, and therefore reduce use of pesticides."

- Dr. Nick Christians' research at Iowa State, where he is in the patenting stage for a biological control of certain types of weeds.

- Studies on using nematodes for grub control at Ohio State, the University of Kentucky, Rutgers and University of California-Davis.

- Turf entomologist Mike Villanit's work on alternative methods of controlling grubs at Cornell's Geneva Experimental Station.

- Dr. Dan Potter's research on biological-type controls at the University of Kentucky.

- University of Florida studies on control of take-all patch.

- Research on placement of insecticides in the turf, being done by Dr. Harry Niemczyk at Ohio State and Dr. Pat Vittum at the University of Massachusetts.

- Attempts to develop an "improved" cold-tolerant seeded-type Bermudagrass at Oklahoma State, and a seeded buffalograss at the University of Nebraska.

In recent years, Snow said: "We've made a lot of gains in context of the environment, but not in controlling pests. Trying to develop chemicals that are more specific to certain pest, is better than putting out a product that controls just about everything and thus kills a lot of beneficial organisms. From that standpoint, chemicals have improved a lot.

"There are chemicals we have lost that were much better for some things than anything we've got today — particularly insecticides... But they were environmentally poor, so, justifiably, they were eliminated. So what we have now is a breed of chemicals that is, for the most part, short-lived, breaks down quickly, and has a lot less potential for contamination of ground water and surface waters than before."



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Larry Hanks, VP Golf Operations; North Star Development Co., Inc. at Deer Creek, Overland Park, KS.

chance. Penncross bent was selected for the greens, zoysia for the tees and fairways, and tons and tons of Triathalawn blend was seeded into the roughs. Our tees, greens and fairways will receive adequate water, but we're counting on Triathalawn's deep-rooting to look good in the unirrigated areas ... especially around our stately trees.

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