#### **GRUB CONTROL**

## New approach taken in controlling grubs

Dr. Daniel A. Potter, an entomologist at the University of Kentucky, has been studying the one-year life cycle and living habits of grubs in hopes of using biological rather than chemical control on the pests.

He has found that grub eggs absorb water, requiring a minimum of 10 to 11 percent soil moisture to grow. "I was interested in how zero moisture would affect these eggs," Potter comments. During a drought-stressed period in 1983, soil moisture content dropped to eight to 10 percent, with soil temperatures in the top inch reaching 109 degrees Fahrenheit. "We found no egg survival in non-irrigated drought-stressed areas," Potter comments. In irrigated areas with moisture at 21 to 24 percent, egg survival rate is 75 percent, he adds.

Also, in naturally drought-stressed turf, survival rate for newly-hatched grubs was just 1.7 percent; it was 70 percent in irrigated turf.

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Unfortunately, the turf's tolerance to grub damage lowers if it is not irrigated, able to handle only eight to 10 grubs per sq. ft. before showing signs of injury. The irrigated turf can handle 15 to 20 grubs per sq. ft.

"There is a direct inverse relationship between the problems people are having with white grubs and the amount of rainfall occurring in the late summer and early fall," Potter says. Potter has also studied other means of control.

"Females are extremely attractive to males," Potter comments. "They're really turned on by the smell that appears to be coming from the female beetle." By putting females in a trap, Potter says, he caught "lots and lots of beetles." He has also rinsed the females with a solution, which has also been used to catch the males.

Potter believes his research will carry a number of benefits. "The most interesting prospect is perhaps in risk assessment," he says. "If a cheap knock-down cardboard trap can be made for about a dollar, this could be used by homeowners, by lawn care applicators, by golf course superintendents to hang out for the purposes of risk assessment. If you don't catch any beetles, you don't have to spray."

Potter spoke on the subject at the Virginia Turfgrass Conference.

### INDUSTRY

# Deere thrusts 12 products on market

With a campaign that started two months ago, John Deere has energetically entered the professional turf market, introducing 12 new products designed specifically for the market.

"We want our sales force to have a good package of products so they can develop a relationship with the golf course superintendent," says Gary Gottschalk, Deere's manager of golf and turf products. "The 12 categories we have will be enhanced. We'll introduce another dozen this year yet; we hope to have 45 to 50 new products for the turf market by five years from now."

The products introduced at the beginning of the year are a walk-behind greens mower, four hydraulic reel mowers, a utility vehicle, a boom mower and five aerifiers.

"Because we have such a wide range of equipment, we're able to get into manufacturing specialty equipment for the golf and turf market," Gottschalk says. "It's a natural extension of the technology and components already in our system."