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Research

as preventive and curative treatments (Figure 2). All products worked well against a mixed population of May/June beetle species and southern masked chafer compared to plots not treated with insecticide. Even though average grub densities in untreated plots were below the recommended treatment threshold, preventive and curative strategies were effective at reducing white grub densities using the products tested.

Acelepryn is of particular interest because it's the newest insecticide registered for white grub control on golf courses in most states. Acelepryn controls grubs with a single application and can be applied effectively at low rates. Based on our results and those at other universities, the treatment window for using Acelepryn is wide ranging because it's effective as a preventive or curative application. This is probably due, in part, to the chemical nature of the active ingredient, chlorantraniliprole, which belongs to a novel class of insecticides known as the anthranilic diamides (Group 28 Insecticide). However, we recommend that Acelepryn should be rotated with insecticides from other chemical

classes to avoid/delay the onset of resistance in white grub populations.

SUMMARY

Not all golf courses are equal in terms of the complex of white grub species they harbor. As G.I. Joe used to say, knowing is half the battle. Knowledge about the identity, distribution and age structure of white grubs allows for better selection of insecticides, treatment windows and target sites. Our research strives to improve white grub management while saving money and reducing the adverse environmental impacts of chemical control. **GCI**

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IMPACT ON THE BUSINESS

War on white grubs

A superintendent at an Army-owned, public golf course combats June beetles with preventive insecticide treatments. **BY MARISA PALMIERI**

At the Army-owned Ruggles Golf Course in Aberdeen Proving Ground, Md., golf course superintendent Mark Burk is now winning the battle with green June beetles, which he's fought in the white grub stage for years.

Two years ago, Burk hit a wall in his grub control program, as the grubs' tunneling was raising the turf up and creating mounds everywhere. Additionally, skunks and other animals were causing damage of their own, digging for their favorite snacks.

"Combined, they were creating a real mess on the fairways and tees," Burk says.

Until 2007, Burk was spraying the ryegrass fairways and tees with Dylox. Though he says it worked well as a clean-up product, the result was a sea of dead grubs baking in the hot August sun, which caused a noticeably foul odor.

"We were definitely looking to spray preventively to avoid clean-up work," he says.

At that time, Burk tried Arena. The first season, he sprayed preventively on the fairways, but since he was working with a new product, he didn't spray the tees.

The preventive application in the fairway worked very well, but come August, Burk had grub activity in the tees. A vendor recommended he try Arena in its granular form as a curative measure.

"I broadcast the granular and watered it in, and literally had success the next morning," he says. "There were dead grubs on top of the turf - I was pleasantly surprised with the quick knockdown."

Burk's pleased to report he only had to use the curative method one season. Since then, he's preventively sprayed fairways and tees around June 1.

"We usually see the June beetles' eggs hatching the first week of August, so we like to have the active ingredient down so the timing is such that we get them just as the eggs hatch," Burk says.

He spends about \$3,500 a season on grub control, and as a superintendent who maintains 27 holes with about a \$500,000 budget and nine part-time staffers, he's pleased with making a single application.

"One application is getting the job done," he says. "And it's also more environmentally friendly, because there's much less insecticide hitting the ground." **GCI**