

New insecticides introduce new options for superintendents

By RICK BRANDENBURG

One statement that should hold true for superintendents who like to stay current with the newest pest-management products is that they should not be bored.

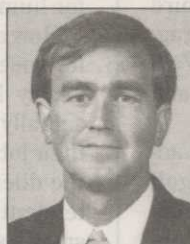
The last few years a number of new products have been introduced to the marketplace for golf course use. Many have been in-

secticides and many represent a departure from some of the conventional types of products we have been using. This includes new classes of products, materials I'll classify as natural products and some biological materials.

The exciting part of this is that many of these new products are very effective and offer superin-

tendents a lot of new options for dealing with insect pest problems. In particular, they offer new opportunities for pest control in environmentally sensitive areas.

One product recently introduced by Bayer is



Dr. Rick Brandenburg

Merit (*imidacloprid*), which has gained wide acceptance in the market for control of several species of white grubs. It is not only effective, but also received an accelerated registration from the Environmental Protec-

tion Agency (EPA) due to its favorable toxicity profile. Merit's mode of action is somewhat different from other insecticides and is in a class of pesticides called *chloronicotinyls*. The receptor site in insects is very sensitive to these products, while mammals and other creatures are much less sensitive. However, for this product to have maximum effectiveness, it is necessary to apply it before or during egg-laying. Merit is not as effective when used in a "rescue" mode to clean up existing white grub problems.

Another product, Mach 2 (*halfenozide*), will be in the marketplace during 1998. Similar to Merit, its toxicity profile makes it desirable in many situations and it must be applied before the infestation gets well established. Mach 2 is a joint venture between Rohm and Haas and American Cyanamid (Roh-Mid). It works as an insect growth regulator, but in a somewhat different fashion than some other growth-regulator products.

A number of products have been labeled in the past few years for turf insect management that fit in the category of synthetic pyrethroids. These include Mavrik, Talstar and Scimitar.

One attractive feature of these materials is that they are used at very low rates of active ingredient per acre. They generally have broad-spectrum control of a number of pests (although their activity against soil pests is often not too good). And they are low in toxicity to people, pets, birds and most wildlife, but are highly toxic to fish and should not be used close to water.

DowElanco has introduced Conserve SC. This is the trade name for its *spinosad* product for turf. It could be considered a natural insecticide since the active ingredient is the result of a fermentation process of a soil organism. Conserve SC has proven effective against a number of caterpillar pests.

Other natural products receiving more attention are made from the active ingredient *azadirachtin*, which is an oil found in the seeds and leaves of the neem tree which grows in the tropics. These products also act as growth regulators and cause the insects — primarily caterpillars such as sod webworms, cutworms and armyworms — to stop feeding.

Once again, *azadirachtin* products like Turplex from Scotts and Azactin from Olympic must be applied at an early stage of the

Continued on next page



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Dr. Rick L. Brandenburg is a turf entomologist at North Carolina State University.

Tolson and Clark move on

HAMILTON, Mont. — **Don Tolson**, the first public-sector winner of the national Environmental Steward Award from the Golf Course Superintendents Association of America, is relocating to his home state in February.

Tolson, a certified golf course superintendent, is leaving the 27-hole Fox Hollow at Lakewood in Colorado, where he has worked

New options

Continued from previous page

insect's development and good monitoring of insect populations is important. What is unique about these new "natural" products is that today's formulations have the shelf life and handling characteristics of conventional pesticides. This makes them much easier to use than some of the older products of this type.

True biological materials have been around for years, but research is constantly being done to improve them. Naturalis-T from Troy Biosciences is a formulation of the fungal pathogen *Beauveria bassiana*, a disease that attacks a wide range of insect pests. Mycotech Corp. is also working on a *Beauveria* product. To date, only limited testing data are available on these products, but plenty of testing is underway to determine the role this biological material will play in turfgrass insect management.

Entomogenous nematodes have also been around for years, produced by a number of companies and sold under a variety of trade names. One such product from Ecogen is Cruiser, which is directed against white grubs.

Success with these products has been quite variable, but they certainly have practical application in areas of environmental sensitivity. The bacteria *Bacillus thuringiensis* has been marketed for years against caterpillars and has limited use in turfgrass. New strains and formulations are constantly under development.

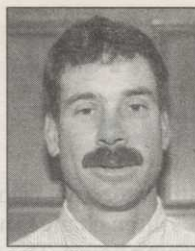
As new products are developed, it is important to stay abreast of how they might fit into a superintendent's insect management program. Equally important is an understanding of how to best make them work. Several of these new products must be used differently from more conventional products. Their success and/or failure will depend on a thorough understanding of proper use, the products' limitations, and knowledge of the pest to be controlled.

since 1990. "This has been such a great job I didn't think I'd ever leave," Tolson said. "But the opportunity came to return home."

His new home will be The Stock Farm, a Tom Fazio-designed track that is midway through construction. A project of Winchester Development, it sits in the foothills of the Sap-

phire Mountains in the southwest corner of the state, in the Bitterroot Valley five miles from Bitter River. The 3,000-acre site will contain the private 18-hole golf course and 104 home sites, said the 1972 Montana State University graduate.

SCOTTSDALE, Ariz. — **Mark**



Mark Clark

Clark has accepted the position as superintendent at Troon Golf & Country Club here.

Clark comes to Troon via The Country Club of Green Valley, just outside Tucson, where he was the superintendent for the past 13 years.

A certified golf course superintendent, he received his bachelor

of science in agronomy from the University of Ari-

z o n a . He served as president of the Cactus & Pines Golf Course Superintendents Association in 1981.

Clark was also named by the governor to serve on the Arizona Structural Pest Control Commission.



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