

The Future is Now

New insecticides provide excellent control while reducing environmental concerns.

BY DR. RICK L. BRANDENBURG

During the past five or six years we've seen a wide array of new insecticides enter the market for use on golf courses, and they've proven effective against a wide range of insect pests. Although it's not been like the floodgates have been opened, the introduction of a number of new products has been beneficial. Given the loss of a lot of products that superintendents had relied upon for many years, these new products are welcome additions, as they are proving to be very effective and many of them are setting new standards for environmental friendliness. Many of these products require accurate timing for application, and this means you need to have a good understanding of the pests' life cycles. That is never a bad idea when using any product.

NEW INSECTICIDE TECHNOLOGY

The list of recent additions to our arsenal of tools for insect management includes: Arena, Allectus, Provaunt, Advion, Acelepryn, Aloft, and Meridian. Some are new products and some are combinations of older products. There also has been a recent increase in off-patent or generic products, especially for imidacloprid and bifenthrin. These generic products obviously can benefit the end user by providing lower pricing, but I encourage buyers to beware. There are many good off-patent products currently on the market and if you decide to go that



Mole crickets remain one of the most challenging soil insect pests of turfgrass in warm-season areas. Several new options are available that give superintendents more options.



Billbug larvae are difficult to detect, and damage often appears without warning. The use of localized information for product selection and timing is critical.

route, I encourage you to get to know the manufacturer. Can you find independently conducted trial results, do they provide sufficient product and customer support, do they provide

overall support for the turf and golf industry, and can you talk to others who have used their products? I think it is important to do your homework before you travel down that road. In doing so, you increase your chances of success and satisfaction.

ADVION

DuPont has recently introduced a number of new insecticides. Advion (indoxacarb) Mole Cricket Bait, Advion (indoxacarb) Fire Ant Bait, Provaunt (indoxacarb), and Acelepryn (chlorotraniprole) are all newer products that have proven to be good options for insect control. We have had good success in the late summer and early fall with the Advion mole cricket bait used against large crickets. It doesn't provide a large surface kill the next morning, so many users have mistaken this for poor performance. The real evaluation is the reduction of tunneling damage in the weeks that follow. The fire ant bait has the desirable characteristic of being very fast acting (for a bait), often impacting mounds in just a day or two.

PROVAUNT

Provaunt was introduced as an effective insecticide for various caterpillars, but it has recently found utility as an effective option for mole crickets. Two applications at the 12 oz. rate applied two weeks apart when egg hatch begins have provided very good control of mole crickets. The key, as is true for most mole cricket prod-



Fall armyworms can be a scary pest to experience. They seem to appear out of nowhere late in the summer and early fall and can severely damage turfgrass in just a matter of days.

ucts, is all in the timing. There have been a few reports of issues with Provaunt when mixing in the spray tank. Be sure you read *and* follow label directions, and any problems can be avoided.

ACELEPRYN

Acelepryn has been promoted for its excellent environmental profile and is a very effective white grub insecticide. More recently I have conducted a lot of trials on cutworms and fall armyworms from North Carolina to the Dominican Republic to Scottsdale, Arizona, and observed very good control. Although the 2 oz. rate provides excellent initial control of caterpillars, increasing the

rate will greatly extend the residual activity. With research trials in North Carolina, in the Caribbean, and in the Desert Southwest, I have personally observed control in excess of 120 days when Acelepryn was applied at the 8 oz. rate. This long residual activity can provide superintendents with a lot of options for managing caterpillars in a preventive management strategy. Acelepryn also provides excellent control of tropical sod webworm, black turfgrass ataenius, and several other pests.

ARENA AND ALOFT

Valent is marketing Arena (chlothianidin); this is another great addition to

the large group of excellent white grub insecticides that are available. This product appears to have a fairly large window of application timing, but it remains a good rule to stick with the egg hatch timing for most effective control. Arysta LifeSciences has a similar product in Aloft, which is the clothianidin active ingredient and the addition of bifenthrin. Effective on white grubs and some caterpillars, these products has proven really effective against various species of nuisance ants. Nuisance ants have become a fairly serious problem in many parts of the country, and our research with Aloft on golf courses has given us a large data base of success stories. We

have typically observed several months of control of ants, which is in sharp contrast to the few weeks of control we often observe with other treatments.

MERIDIAN

Meridian (thiamethoxam) is a product of Syngenta and was delayed in its registration a number of years ago. It is closely related to other neonicotinoids such as Merit (imidacloprid) and has shown excellent white grub control

ALLECTUS: A COMBINATION PRODUCT

Allectus is a product that has been on the market for a while and is a combination of Talstar (bifenthrin) from FMC Corporation and Merit (imidacloprid) from Bayer. This was one of the early introductions to the golf industry of a combination product with potential benefits of controlling both surface and subsurface insect pests. Obviously, the use of this product has specific utility

insecticides are relatively new to the golf course market for insect control, but it's a common practice in disease control. Some folks really like the idea, but others don't. Determine what is best for you, based on the pests you encounter, when they occur, and other options that might be available. In a few cases, where we don't have a sound understanding of the pest's life cycle, such as the hunting billbug on warm-season turf in some areas of



Scouting to optimize insecticide use and performance always has been, and always will be, a key component of cost-effective use of pesticides.

throughout the country. Some folks like the fact that it is a little more water soluble than some of its competitors and feel that it gets to work a little more quickly, although this has been hard to document in studies.

where both types of pests are present, but my research did document some additional "kick" or boost in the level of control, for example, in late season mole cricket control as compared to Talstar or Merit alone. Combinations of

the South, we find ourselves trying to manage a pest without a lot of confidence about the pest stage. We've had good success in the spring and fall with products like Allectus, as it can kill both the adults and larvae and can

give us a broader scope of control when we aren't certain of the exact stage of a pest.

INSECTICIDE AND FERTILIZER COMBINATIONS

Many products are now found in fertilizer carriers and this is a concept I really like, but I will stress one big consideration that must be kept in mind when using a fertilizer/insecticide combination. The use of fertilizer carriers for an insecticide can certainly save time and money. My one and only concern is that when we use these products, we keep both the agronomic and biological needs in mind. In other words, if it makes sense from an agronomic perspective to apply a fertilizer, is it good timing based on the life cycle of the insect to apply the insecticide? If the answer is no, then you will not get good control of the insect and the use of a fertilizer carrier has *not* saved you time and money. If the answer is yes, and it can be many times if you plan accordingly, then it is a great concept to do two things with one operation.

Fertilizers often make great carriers, as they release the insecticide very quickly once wet.

NEW BIOLOGICAL PRODUCTS

There's not too much in the way of biological products in the marketplace right now. There is work underway on some new products, but they appear to be several years away. Conserve has probably been the most widely used "organic" type product in the golf course market for control of caterpillars. In the near future we are going to see some additional compounds enter the marketplace. All have good environmental profiles and offer excellent control of insects. New formulations are under development, as are some new combination products. Some of the new formulations are claiming improved performance, faster activity, and longer residual activity. There are also a few more products going off patents in the next few years, so we will see some generic offerings for those insecticides in the near future.

CONCLUSION

In 2010 alone, my program evaluated new products for armyworm, cutworm, mole cricket, fire ant, nuisance ant, white grubs, ground pearl, billbug, and chinch bug control. That's good news, as it shows there is continued activity in the industry to develop new and better products. I really like the direction the industry has gone with products that are more environmentally friendly. Make sure you always read and follow label directions. Today's new products require a little more diligence in their use to get maximum performance, but when used in the right way, they give us outstanding results. Regardless of which products you use, obtaining good life cycle data and looking at locally generated data on product performance are key. Products can and do vary in their performance in different areas of the country.

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The use of combination products can help overcome a lack of knowledge, but this should be considered a temporary fix. The before (left) and after (right) appearance of a golf course fairway suffering from hunting billbug damage shows significant improvement with the use of a combination insecticide that targeted both adults and larvae.