



Bayer Environmental Science

## QUICK TIP

Turf Tip for Snow mold diseases can devastate a golf course, affecting conditions and playability for several months after the snow has melted. With cold, damp conditions in the months ahead, it's never too early to make preparations to protect your turf against pink and gray snow mold. Reserve™, a new plant protectant from Bayer Environmental Science's innovative StressGard™ formulation technology and the Gold Standard for any turf program, delivers superior, broad-spectrum disease control and healthier, denser turf in the spring. Adding Bayer StressGard formulated products such as Reserve, or Tartan® to a snow mold program will improve overall turf quality when coming out of the winter season. For more information on Bayer's Snow Mold Program, visit BackedbyBayer.com. Always read and follow label directions.

# Know Your Enemy



While newer insecticides are more environmentally friendly, they must be used properly to achieve maximum control

By Rick Brandenburg

If you happen to be a historian, you're aware that carefully studying and understanding the enemy have won many major battles. Knowing what to expect and when to expect it are the basic rules of warfare. This knowledge helps overcome vast numbers and superior weapons.

In the world of turfgrass pest management, this same philosophy holds true. Knowing your pest problems, what to expect and when to expect them are critical to success and victory. This is more important than ever with today's new materials.

First, we must realize that much has changed in the turfgrass pest management over the past 25 years, including the pests, the turfgrasses and the products to combat the pests. Expectations and management of turfgrass have also changed dramatically. And as management and demands for turf quality have changed, so have the pest problems we face.

In many parts of the country, sod webworms used to be a major problem. But they haven't been a problem in many of those same areas for 20 years. And most people never heard of hunting billbugs in warm-season turfgrass 20 years ago. Today, billbugs have been a significant problem in numerous locations.

In some cases, the increased demands on turf quality have brought about pest problems. Modest damage that went unnoticed 20 years ago may now be viewed as a problem in light of current higher expectations. In some instances, a new pest has not emerged, but rather a demand for higher quality created a new problem.

In other cases, new pest problems have emerged. Most obvious is the spread of fire ants throughout the South and the continued movement of mole crickets in the Southeast.

New pest problems have occurred for other reasons as well. Some of our newer pest problems are the result of us simply offering them a better meal. We are growing higher quality turfgrass under more irrigation with more fertilization than ever. This creates a great environment for some pests and has most likely contributed to the emergence of more serious problems with billbugs, fall armyworms and other insect pests, not to mention disease problems.

If we create a lush, green food with plenty of organic matter and lots of moisture, we will increase insect problems.

There's another side to this idea of more insect pests than ever and that relates to changes in the insecticides. Years ago, we relied fairly heavily upon broad-spectrum insecticides in the organophosphate and carbamate classes. Through the years, many of these have been moved out of the marketplace for myriad reasons.

Replacing these older chemistries has been a wide range of newer products that are really great additions to our arsenal for battling insect problems. They typically have lower mammalian, bird and fish toxicity, lower use rates and are considered more environmentally friendly. They're typically very effective against the target pest when properly timed and applied.

The reality of today's modern products is they're very good at controlling the pests at which they're directed. Another reality is that, in general, today's new insecticides are more narrow in spectrum, require a good job of being properly timed for application and ask us to have a fairly good understanding of the insect's lifecycle.

## Better strategies

This brings us to figuring how to develop better strategies for use with today's new insecticides. As one might guess, they typically aren't cheaper than the older ones they replaced. Despite their great performance, we want to use them as cost-effectively as possible. The best strategy is to first develop a good understanding of the pest you're trying to control.



The new insecticides available today are very good. It's easy for those of us who have been in this business for many years to reminisce about the good, old days when we had diazinon and other products. But today's products are better in many ways. While they require a better knowledge of the pest to use them most effectively, they're very effective when used properly.

I have the privilege of teaching seminars each year in many places around the world. The most challenging seminars are in places where there has been limited research on the pest biology and life cycle. Even if it's the same pest that I frequently see in the United States, its life cycle under different environmental conditions can vary considerably. The different insect life cycles don't necessarily require a trip from one coast to the other. Many times there can be major differences in pest biology in the same area. Cost-effectiveness comes from knowing your pest biology and using that information to implement control strategies at the optimal time.

While today's newer products, such as Allectus, Acelepryn, Meridian, Aloft, Provaunt and Arena, are great insecticides, users can turn them into mediocre products through poor timing. These newer products have a better spectrum of insect control than what was available 10 years ago, and timing is critical to obtain control of a range of pests.

Knowing which pests you're likely to encounter — the life cycle of each pest, its most susceptible stage (the optimal time to treat), when that stage occurs, and how weather and environment affect the timing of

that stage — is crucial for effective control. This may sound like a lot to know, but it typically isn't.

For instance, timing for treating white grubs is important. They need to be treated close to the time when egg hatch is occurring. Newer products claim there's more flexibility than in the past when treating, and that certain pests can be treated a little early or a little late. This is fine as long as you have accurate information about when egg hatch for the grub species in your area occurs. This date varies from year to year.

As you look for ways to do business more cost-effectively, carefully consider the life cycles of the pests in question. A new insecticide may have a label for armyworm, chinch bug, white grubs, billbugs, sod webworm, fire ants and other, but that doesn't mean you will control all of these pests since their life cycles and occurrence don't all match up simultaneously. If you treat for white grubs and billbugs occur within 60 days, you may get control. But control of chinch bugs or armyworms later in the season from that same application will be questionable.

While product labels of the new insecticides list a large number of different pests for control, think first of their life cycles and the timing of their occurrence. Don't assume one application will control everything. They can only work as effectively as we give them a chance — and that depends on proper timing.

*Rick Brandenburg, Ph.D., is the co-director of the Center for Turfgrass Environmental Research and Education at North Carolina State University. He has worked in turfgrass research for 25 years.*



*Fire ants (far left) are spreading throughout the South, billbugs (near left) are problems in numerous locations, and mole crickets (above) are moving into new areas of the Southeast.*

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