There’s a spot for a new controller on your course. How will you fill it?

Fact is, this used to be an easy answer. There were only a few choices in irrigation system controllers, and more or less they performed roughly the same. Well, that has changed quite a bit. The demand for increased water conservation, more flexibility, and better efficiency has led to dramatic breakthrough technologies, and many new options. So what used to be a routine decision isn’t. (And, of course, irrigation controller technology isn’t something most of us stay as up-to-date on as say who’s at the top of the leaderboard at a PGA TOUR event, or who was just voted off the island last night.) So where to go from here? That’s the million-dollar question. Literally — the right controller system can have that much of an effect. First off, don’t just consider the brand. Instead, look at capabilities too. If you do, you’ll discover your choice is simpler than you might think. Because there are significant differences. For instance, there’s a control system that can offer much greater precision (to the second instead of the minute) in setting rotor run times. Why is this important? Because shaving seconds of program run time can save hundreds of thousands of gallons of water over a year. Sometimes as much as 40% in total power and water costs. This same system also allows any controller to act as a central control for all the rest. Why does this matter? It’s a huge time saver if you operate without a central, or during a renovation. Instead of having to visit each and every standalone controller on the course, you can just go to one. (Or simply hook one up to a maintenance radio and control them all. Or even better, connect one to the internet with a modem, and manage the whole irrigation system from anywhere you can access the internet, like the clubhouse—or perhaps the couch in front of your TV at home.) Then, there’s the question of how easy the controller is to upgrade in the future—as more and more sensor and web-based technology comes online. Here again, the answer is simpler than you might expect. Only one control system is totally software-based. Which means upgrading is just a matter of connecting the controller to a laptop and taking only a few minutes to upload the latest software. What is this advanced system? It’s the John Deere Aurora Control Series. Sure it might not be the first name you consider in irrigation, but when you look at everything it offers, it might be just the right one to fill the position. Like to learn more? Call your local John Deere Golf distributor or visit www.JohnDeere.com/Aurora.
**FLORATINE**

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As we approach the winter season, it is essential to maintain healthy, strong turfgrass that can withstand the changing climate and fight off the stress and pressure that comes with cooler temperatures. Read more at www.floratine.com.

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**PARASITISM CHART**

Percent parasitism of *Tipha vernalis* on Oriental and Japanese beetle grubs from 2008 surveys in Connecticut.

<table>
<thead>
<tr>
<th>Town</th>
<th>Oriental Beetle grubs/square feet</th>
<th>Percent Parasitism</th>
<th>Japanese Beetle Grubs/square feet</th>
<th>Percent Parasitism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vernon</td>
<td>0</td>
<td>0.2</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Manchester (a)</td>
<td>0.3</td>
<td>33</td>
<td>0.3</td>
<td>0</td>
</tr>
<tr>
<td>Manchester (b)</td>
<td>0</td>
<td>0.3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Farmington</td>
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<td>0.5</td>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mansfield</td>
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<td>33</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Thompson (a)</td>
<td>0</td>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Thompson (b)</td>
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<tr>
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<td>0.1</td>
<td>100</td>
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<tr>
<td>Coventry</td>
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<td>0</td>
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</tr>
<tr>
<td>UConn, Storrs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Continued from page 50

present in Connecticut. The wasp is active from August to early September, and the collected wasps readily oviposited on Japanese and Oriental beetle larvae. The summer *Tipha* attacks grubs in older stages of development (second or third instars) during late summer. The specific egg location for this wasp is in the crease between the fifth and sixth abdominal segments (Clausen et al. 1927). Future work will assess the parasitism rates of *T. popilliavora* on the Japanese and Oriental beetles.

One of the important questions to ask is how to conserve these naturally occurring wasps in order to benefit the most from them. The *Tipha* species described here have been observed using nectar resources to supplement their diet. By providing nectar resources to the wasp, we could enhance their survival, spread, and their efficiency in attacking grubs. Potential plants that harbor aphids for honeydew or produce nectar have been suggested in an effort to enhance populations of this beneficial insect. Research by Rogers and Potter (2004) in Kentucky examined the potential to recruit more *Tipha vernalis* and *Tipha pygidialis* using sugar water sprays and flowering plants. Peonies in their third year of planting were found to significantly attract more *T. vernalis*, and parasitism on Japanese beetle was increased from 1 percent to 3 percent in areas without peonies to about 24 percent in areas with the peonies.

In Connecticut, we’re studying which peony cultivars are suitable for attracting the spring *Tipha* in addition to finding other perennial plants that could be used to attract the spring and summer *Tipha* without attracting or providing food plants to the pest beetles. In the future, we would like to suggest to the public the use of certain ornamental plants to enhance the activity of these beneficial insects as part of integrated pest management for Japanese and Oriental beetle grubs.

**Ana Legrand** is an assistant extension professor with the IPM Program in the University of Connecticut’s Department of Plant Science.

**REFERENCES**


FLORATINE UNDERSTANDS THAT YOUR PROFESSIONAL REPUTATION AND LIVELIHOOD DEPEND ON THE TURFGRASS YOU MANAGE. That is why for 20 years Floratine has never cut corners using “cheaper” ingredients or “one size fits all” products. Because you have so much at stake, we deliver the essential elements for your success by using only the finest raw materials to create our patented foliar and soil technologies that are rooted in science. All of which is supported by a highly trained global distribution network dedicated to keeping you rooted in solutions.

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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 Allocuts, Aclerepy, Meridian, Afof, 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 armoryarm, 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.

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A Pointed Threat

If Sharp Park closes on an absurd claim that species can’t co-exist with golfers, all bets are off when it comes to future warnings against golf courses

By Geoff Shackelford

Sharp Park Golf Course supports about 60,000 rounds a year. It was designed by Alister MacKenzie and sits about 60 feet from the crashing waves of the Pacific Ocean.

Green fees at the course top out at $24 for residents of all shapes and sizes. The place hauls in $1 million annually in food and beverage and is home turf for two high-school boys’ and girls’ teams. For good measure, the course became one of only a handful of authentically organic golf courses in the country this past June.

Yet, according to a few loud and influential environmentalists who want to make it a nature reserve for two endangered species, Sharp Park must close for “the good of the game.”

Yep, they really said that, and also claim it’s a money loser. Another faction of soccer lovers has joined the fray and suggested the course needs to close because it’s only a game for white men, even though a visit to Sharp Park will reveal folks of all races, age groups and genders.

Add it all up, and this is why it’s easy to suggest the epicenter of golf vs. extremist environmentalism has found its heart in San Francisco.

Some may find it easy to shrug off a bizarre saga where environmentalists are waging a battle to shut down a popular and historic municipal golf course. After all, it’s the wacky city by the bay. Most of America has trouble taking interest in a political battle with too many factions to list, especially one playing out in a loopy city where a board supervisor once infamously murdered another supervisor.

I recently documented the battle over Sharp Park for Golf World magazine in a 2,100-word story that could have been a book’s length. And maybe this sad tale will someday find its way between hard covers, because I can’t imagine a more critical juncture for golf’s future. If Sharp Park closes on an absurd claim that species can’t co-exist with golfers, all bets are off when it comes to future threats against golf courses.

The group taking on Sharp Park’s existence is a rogue outfit called the Center for Biological Diversity. It subscribes to a “deep ecology” position which says humans have no right to reduce “the richness and diversity” of other life forms except to “satisfy vital needs.” Anything they deem beyond vital and harming wildlife — golf is near the top of its list — invites the threat of legal action. The group has a long list of developments stopped in the name of protecting endangered species to prove it can and will fight.

The golfers, initially caught off guard by the center’s tactics and obstinate toward any suggestion to save the species, are now on the same page and have begun to make a case for Sharp’s future. But they need the golf industry to help — not only in continuing efforts to better protect wildlife and make golf courses the stewards of the environment they can be, but to support the effort to restore Sharp Park as an affordable MacKenzie gem that sustains two beautiful endangered species.

So as October’s President’s Cup descends on nearby San Francisco muni Harding Park, keep Sharp Park in your thoughts. It’s No. 1 on golf’s endangered courses list. For no good reason.

You can reach Shackelford at geoffshac@me.com. Visit Shack’s Web site at www.geoffshackelford.com and follow him on Twitter at GeoffShac.
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