

Innovating for Sustainability

The Toro Company is committed to helping customers improve their environments with innovative turf maintenance equipment and precision irrigation systems. We employ strategies and practices to protect, support and enhance the resources important to our future.

Product Innovation: Our commitment to designing and delivering innovative new products is the lifeblood of our company. By working closely with customers to anticipate the future, we constantly pursue new technologies to help protect the environment, conserve water, increase productivity and control costs. We have invested more than \$250 million in R&D over the last five years, and are conducting advanced work in alternative fuels.

Water Management:

With proven and proprietary water-saving irrigation technologies, we continue to advance our position as a leader in water management. We focus on precision irrigation and bring to market products that allow our customers to maintain healthy turf with less water and energy.

Operational Efficiency:

Our focus remains on eliminating waste and increasing operational efficiencies. We continue to identify improvements that deliver greater efficiency and manufacturing flexibility.

Philanthropy:

The Toro Giving Program has built a legacy of environmental, educational and community support. Toro supports and funds environmental research and turf management research projects at leading academic institutions worldwide.



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At Valent, product stewardship begins with the recognition that the public has a right to a healthy, nutritious food supply and safe surroundings. We also realize the importance of protecting and preserving precious environmental resources for the benefit of future generations. Consequently, it is for the



Scott Todd
*National Business
Manager, Valent
Professional Products*

well-being of the public, our customers, our company and the industry at large that Valent complies with the letter—and the spirit—of all environmental, health and application laws.

Valent was awarded the first registration of a reduced-risk pesticide by the EPA, and has biorational (including organics) and traditional products in the portfolio.

In Valent's new product development program, a potential product must pose a low order of hazard to non-target organisms and dissipate into environmentally benign ingredients.

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Valent continually works with existing products to improve formulations and product delivery systems, enabling the applicator to use lower rates and prevent air and soil pollution problems. Valent also sponsors continuing education programs to improve application methods, help prevent insect and herbicide resistance and educate to reduce spray drift.

We participate in numerous allied-industry programs such as Responsible Industry for a Safe Environment (RISE) and the Ag Container Recycling Council (ACRC).



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By Ron Furlong, Contributing Editor

KEEP AN **Open Mind**

Several years ago, someone placed a few goldfish in one of the lakes on the golf course where I'm superintendent. There's now a thriving goldfish population numbering in the hundreds in the lake. It's cool to try and find the goldfish school when traveling along the lake's bank. They usually hang out together in one big orange mass, often near a group of lily pads or aquatic weeds. They must be easy pickings for the blue herons and other fish-loving bird life we have on the course.

For whatever reason, the fish have come to symbolize nature itself. They are as much a part of the course's ecosystem as the bald eagles flying above the fairways, the great horned owl living in the trees off the fourth hole, the rabbits bounding down the cart paths running from golf cars, and even the blue herons who hunt them for dinner.

Continued on page 34

Sure, the crazy environmentalists can drive us wacky. But does that mean we should just write them off?

Keep an Open Mind

Continued from page 33

I begin thinking about the environment whenever I see the gently rolling orange mass in the lake on the sixth hole. I find it somewhat remarkable these little fellas forced their way, if you will, into my environment. It's amazing, really.

My environmental thoughts are plentiful these days and range from wildlife that live on the course to the chemicals we use on the course. Lately, my thoughts have been on some of the possible bans for some of these chemicals. As a superintendent, my first reaction to the banning of one or more of my "tools" used to be that of indignation.

"How dare they try and take away one of my beloved chemicals?" I would tell myself.

"Surely, they are not acting on science, but on emotion."

However, over the years, my reaction has most decidedly changed. The indignation is gone. What has it been replaced with? Good question. I suppose something more like ... well ... curiosity. Something more in line with, I guess you could say, an open mind.

If I find any fault at all within our industry, I'd have to say it's over this particular issue — the gut reaction we've had in recent years toward the people and organizations trying to take away some of our chemicals. It seems like we've always accused them of acting off emotion, rather than science, and of ignoring the facts before them.

Now, let me be clear, these organizations *have* often acted this way. They *have* been close-minded to proven science, just as we have accused them of being. But somewhere over time, we too have lost some of our almighty open-mindedness, perhaps without even realizing it.

In being so incredulous that our opponents are acting without science, perhaps we've also forgotten about actually supporting our opinion with some facts. But we can't afford to always think they're wrong and we're right. That's a dangerous path to head down. The fact of the matter is: Often, there are no definite facts one way or the other. Common sense will be the best recourse on many occasions.

Continued on page 36

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think they're wrong
and we're right.**



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Keep an Open Mind


Continued from page 34

I think a somewhat new place for our industry to start from when this issue comes up again (and come up it will) would be to have the viewpoint that perhaps the chemical or chemicals in question are, indeed, dangerous. Maybe we should start from that place each time, and work from there.

Forget what chemicals they are and forget what we think we know. Let's listen to what's being said and then go out and get the facts. Just because a previously "crazy environmentalist group" says Chemical A is deadly and polluting the water supply and killing all the salmon in the world, let's not assume they're automatically wrong. Rather, let's debate them and use facts to prove they're wrong. Most likely, they have not brought science to the table.

But this also doesn't mean they'll never bring science to the table. And it doesn't mean they'll never be correct. What if they come across some data that clearly backs up what they're saying, and yet we don't listen and go out and stage the good fight to save our chemical? How would we all feel then?

Maybe sometimes the fight we're fighting is the wrong fight. If the data doesn't support our viewpoint, should we not be concerned that perhaps we aren't being the environmental stewards we claim to be?



Let's not assume they're automatically wrong, Let's debate them and use facts to prove they're wrong.

Here's a possible course of action. First, listen to the argument. Second, send our people out there to find the facts. Third, fight the fight if we're being wronged. Or, change our ways if we're not being wronged.

If it comes to the last thing — changing our ways — how exactly do we do that? Well, for one, the entire industry needs to understand the implications of the conditions that have become the accepted norm. New tolerances will have to be established. This is coming whether we like it or not.

Continued on page 38

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Keep an Open Mind

Continued from page 36

Green speed (height), weed tolerances and wall-to-wall mowing and irrigation are areas we have to study. Agronomists from the United States Golf Association's Green Section can help us with this.

And let's say, for example, we lose Chemical A. Let's say it's a fungicide that we rely on four or five times a year. Is there a replacement fungicide with a different chemical makeup that isn't so bad for the environment? If not, do we need to fertilize more? Mow the greens a little higher? Roll less often?

Let's say we also lose Chemical B, which this time is a herbicide. Is there a less toxic solution we can use? Do we need to start altering our weed tolerances? Do we really need to kill all the weeds in the secondary rough? Or even the primary rough? Can we even accept some weeds in the fairways? Are there cultural alternatives to removing the weeds? Is there a different grass plant we should introduce?

Again, I'm not saying we should sell the sprayer and tie ourselves to the nearest thistle, but I do think we need to start looking at things a little differently. No more should we always cry blindly, "Crazy environmentalists!" We need to listen carefully to their arguments, gather the

scientific facts and then respond. And if we deserve to shout, "Crazy environmentalists!" — we should.

And if we do cry that and hunker ourselves down into a dogfight to protect ourselves, we need to remember why golf courses are important, and to let the environmentalists know as well. Golf courses, among other things, produce oxygen and help cool the atmosphere, prevent soil erosion, help recharge groundwater suppliers and provide greenspace in urban settings, according to the Golf Course Superintendents Association of America. We need to shout these things from the mountaintop.

Why, even Al Gore would be impressed. And I haven't even hit on the ecological and community benefits golf courses provide, including wildlife sanctuary and wetlands preservation.

OK, I'm done. Let me just climb down off this soapbox before I get hurt. Oh, one quick question. Does anyone know how goldfish taste on the grill? With a little olive oil and dill, perhaps? ■



Furlong, a Golfdom contributing editor, is golf course superintendent of Avalon Golf Club in Burlington, Wash.



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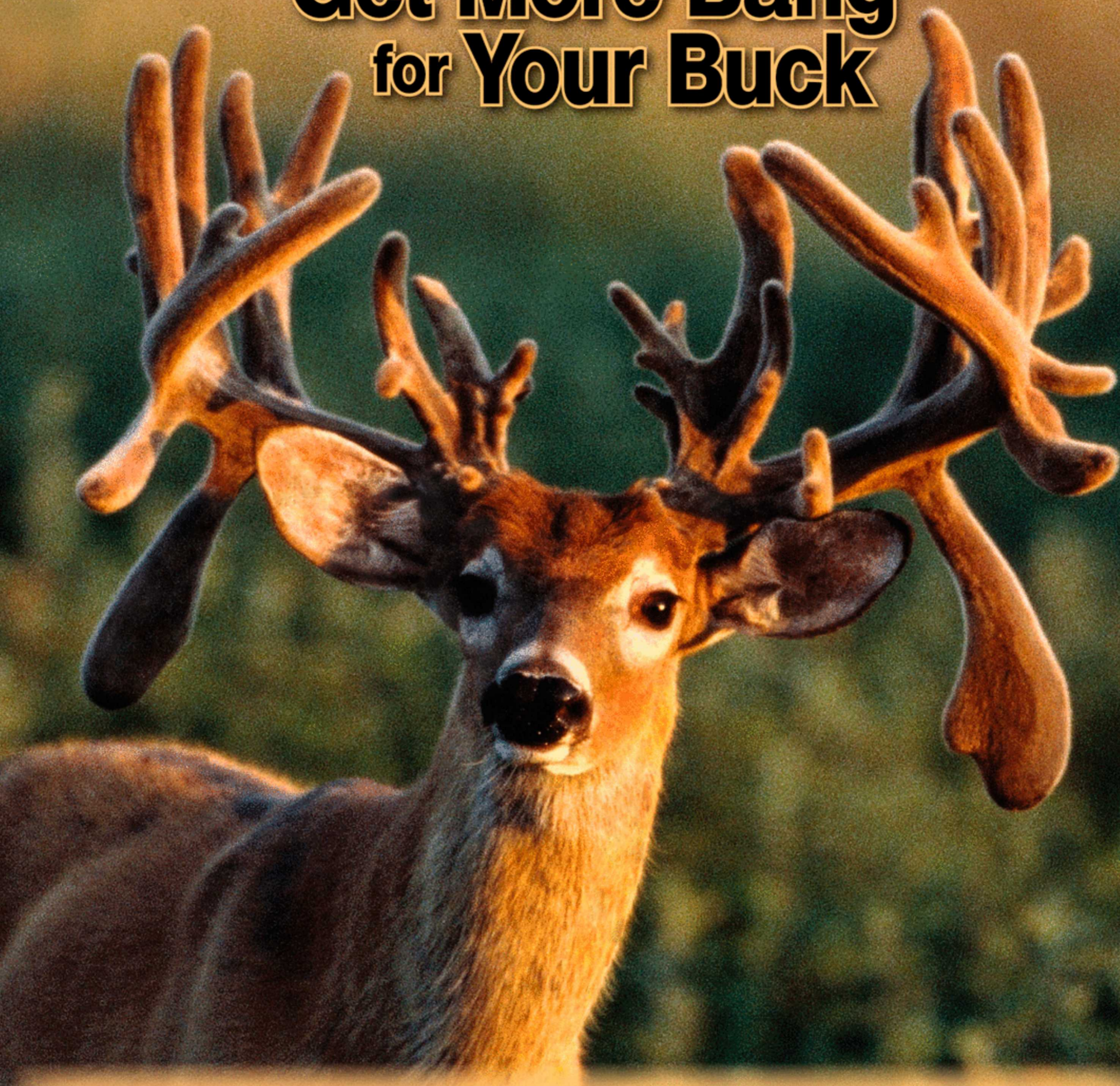
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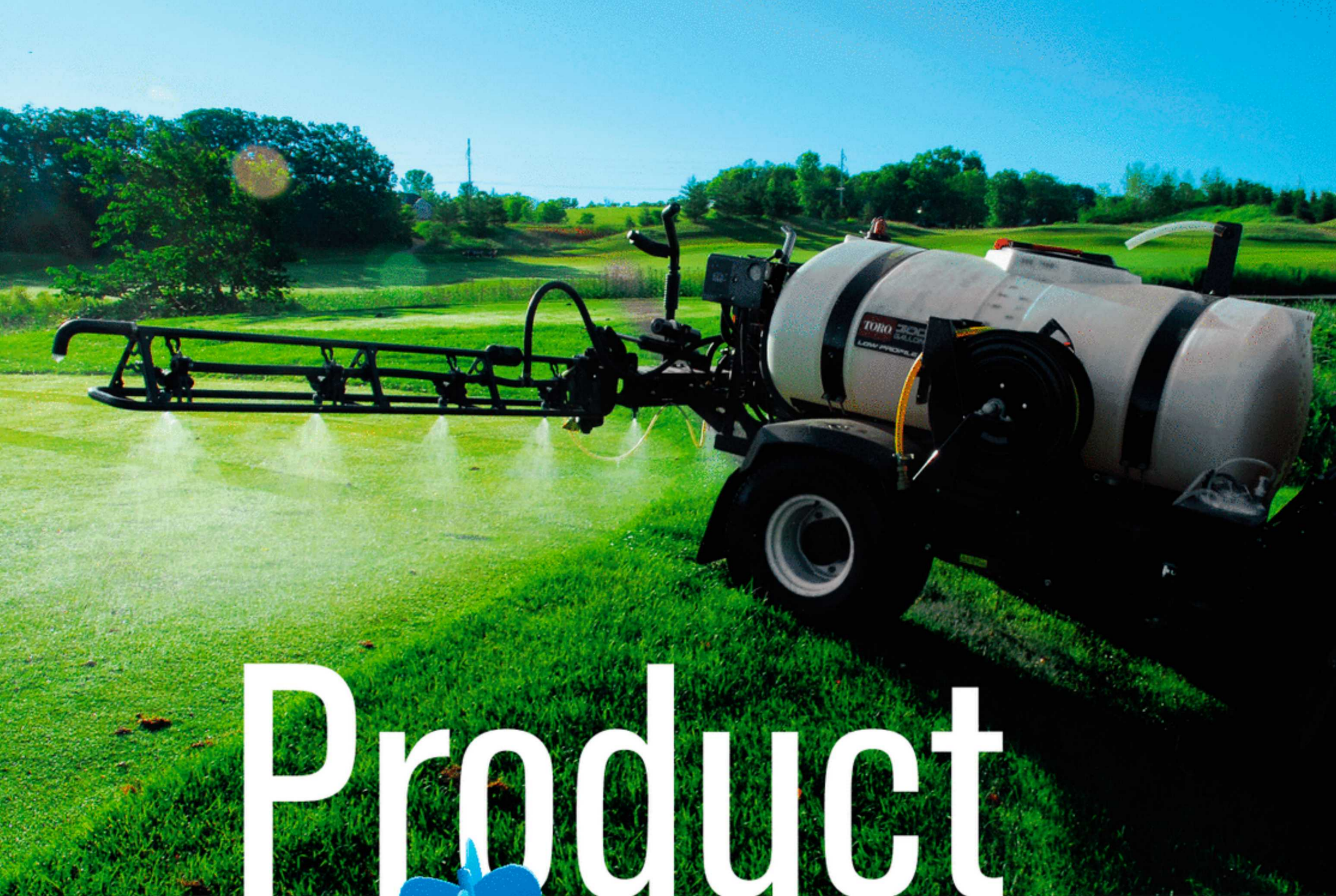
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Product

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New insecticides target pests more specifically, reducing the quantity of product needed to perform **By John Walsh**

There's no question synthetic insecticides are more pest specific than ones used 20 years ago. Golf course superintendents can use less of a product, still have improved effectiveness and not worry as much about off-target issues.

"Over my 30-year career as a superintendent, the progress that's been made is significant, considering the highly toxic products used in the early 1980s," says Scott Werner, superintendent at Lincolnshire Fields Country Club, a private, 18-hole course in Champaign, Ill.

But to place all new insecticides into a "more environmentally friendly" category isn't so simple.

"You can't lump all insecticides, no matter how new they are, together," says Dave Shetlar, Ph.D., associate professor in the department of entomology at the Ohio State University. "Just saying they're less toxic and that we use less of them is an

oversimplification. The way these insecticides work makes all the difference in the world as far as safety is concerned."

Insecticides are rated with an LD50 number to indicate their toxicity levels. LD50 is the abbreviation for the amount of toxicant needed to kill 50 percent of a test animal population. It's expressed in terms of weight of chemical per unit of body weight. LD50 is also used to measure the acute oral and dermal toxicity of a chemical — the lower the LD50 value, the more poisonous the chemical. LD50 isn't a measure of environmental hazard.

A low acute toxicity rating isn't the same as environmentally friendly, Shetlar says. For example, fipronil has an LD50 of just 97. "It's extremely toxic, but it's used at very low rates," he adds. "At those low rates, it has a minimal impact on nontargets. It's commonly used for fire ants, mole crickets, and for fleas and ticks on dogs and cats."

Dursban and diazinon were used "everywhere against everything," Shetlar adds. "That's why the EPA banned them."

Continued on page 42