

e are an easy target.

Golf courses are one of the most unnatural natural things around. What we do is against nature. Grass does not grow at .125"—it dies at .125". We have to do unnatural things to grass to make it survive the conditions that we demand from it.

Dan Dinelli, CGCS at North Shore Country Club in Glenview, Ill., wrote once that there is nothing sustainable about a golf course. If we as superintendents stop all maintenance for a week and leave, there will not be much of a golf course to return to.

Another thing making us an easy target: image. Although the history of golf began in the fields and shorelines of Scotland, when it migrated to the United States it lent itself to being a "blue-blood" game. Golf still suffers from this image, making it an easy target for those unscrupulous enough to engage in class warfare.

But then consider the agricultural industry. Agriculture uses vastly more chemicals than the turf market, and relies on the outdated fertilizer technology of water-soluble products compared to the more ecologically friendly slow-release products that are commonly used on golf courses.

Yet, the agricultural industry is rarely, if ever, criticized.

That's because the agriculture market has a more positive image than the golf industry. Whereas golfers are stigmatized as rich folks sitting around sipping martinis while pondering their next business deal, farmers are perceived as working from sunup to sundown, growing their crops and raising their stock by the sweat of their brows to produce the food we all need.

Which one of these pictures is more appealing to you? Whose side would you take? Which one of them is easier to exploit?

Are you doing enough?

It's time we start making it harder to take advantage of our industry. We must start learning how to defend ourselves.

This article is not directed at the industry Continued on page 24

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leaders, the leaders of the GCSAA or any other formal organization. It is squarely focused on you, the superintendent — the fella who is out there managing his 80- to 200-acre golf course every day.

The industry as a whole is taking steps to advance the cause. Take for instance, the "We Are Golf" initiative.

The question is, what are you doing? Perhaps you are making a serious effort to cut down on the inputs that you are using on your golf course: fewer pesticides, herbicides, fungicides; less water and fertilizer. Perhaps you have a formal IPM plan, or are trying to improve wildlife habitat on the course.

But are these things enough?

The answer is, "No, they are not." For if no one knows about the things that we are doing, it should be considered as not doing them at all.

If our efforts are not promulgated,



they are not effective. Our opponents are able to make extravagant, inflammatory, and often entirely false claims about our industry and never be called to the mat about it. There will be no help from our national media. National initiatives

The two animals at the center of the Sharp Park drama: the San Francisco garter snake and the California red-legged frog.

such as We Are Golf are excellent but are mostly focused on the national interests of the industry. They don't address local issues. That's where we come in.

The Sharp Park drama

Sharp Park Golf Club in San Francisco is a public course run by the city. It is an Alister Mackenzie-designed course that sits on the Pacific Ocean. It provides an affordable round of golf in an expensive





confront us.

Be prepared to stand up and Speak in support of our profession and defend our position. Be willing to send letters to elected officials or newspaper editors.

city. It is also the home of two endangered species: the San Francisco garter snake and the California red-legged frog. Since the two little creatures have made their homes on the golf course, there has been much furor over how the course is impacting their wee little lives.

The course has a very bad drainage problem, so when there is a downpour, the ponds where these little critters live overflow into the fairways. The perceived risk here is that the regular maintenance of the course, or the golfers playing the course, will result in the demise of these animals when they are exposed during flood condi-

tions. The result is a massive battle about what to do about Sharp Park. Environmentalists want the course shut down and converted to a wetland habitat; golfers want the course renovated to provide for proper drainage that would prevent the conflict between nature and the game.

Stepping back and looking at the situation, two things are obvious. First, the slithery and slimy little inhabitants at Sharp Park have been living in contact with the golf course for some time without ill effects. In fact, they have been living there since a seawall was constructed that changed the water in the ponds from brackish water to fresh water, allowing the animals to thrive.

Second, the conflict is not about solving a problem; it is about advancing an agenda. The golf advocates' proposal solves the spatial conflict between the golf course maintenance crew and the affected animals. But unfortunately, the organizations fighting to shut the course down are not willing to compromise.

As superintendents, we are directly in contact with nature. Generally, we respect its beauty and the role it plays in our profession. We are not out to cause harm to any part of our natural surroundings. In fact, many of us love our jobs because it puts us in contact with the nature that we enjoy.

To accuse us of being an industry and individuals — that practices poor stewardship is ridiculous. Yet that is exactly what is happening in the example of Sharp Park. The opponents of the golf course can get away with making political hay over this situation only because it is a golf course.

Know the facts

So, what is there to do?

First, every superintendent needs to keep studying. We all need to know the facts. Second, make those facts known whenever our practices are challenged. Third, keep reading about any and all Continued on page 26



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new approaches that might lessen our use of synthetics. (This last point should not be taken as a condemnation of the synthetic pesticides and fertilizers that we use. The risks we take in using them are truly very low but why not reduce these risks if possible?)

The most necessary facts relate to the potential toxicity, chronic effects and negative environmental impact of the products we use. How toxic are the chemicals we're using? The answer to that question is best derived from the LD50 rating of each active ingredient. The rating is determined through animal testing to determine how many milligrams (mg) of active ingredient per kilogram (kg) of body weight is required to kill 50 percent of a test population. The lower the number, the more toxic the substance.

The most toxic substances used in maintaining golf courses are insecticides and nematicides. Products like Nemacur (no longer available for sale) have an LD₅₀ rating of 6. That means it only takes 6 mg/kg of the active ingredient to kill 50 percent of the test population. It's obviously very toxic stuff. In comparison, an insecticide that is commonly used on golf courses today

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for the control of grubs is Merit. Its active ingredient has an LD_{50} of 424 mg/kg. That's a substantial difference.

As for herbicides and fungicides, the more toxic ones are 2, 4-D at 375mg/kg and Subdue Maxx at 669mg/kg, respectively. Contrast that with these numbers: Caffeine's LD $_{50}$ is 250mg/kg. Aspirin's LD $_{50}$ is 780mg/kg. The active ingredient in the coffee you may drink everyday is more toxic than the vast majority of the chemicals that are commonly used on golf courses. The stuff that you take for headaches is only a little bit less toxic than some of the more toxic chemicals that are commonly used on golf courses and is a lot more toxic than some of them.

To refine this point even more, it would take 100 cups of coffee to reach a lethal dose. This is a substance that is ingested orally by many of us on a daily basis. One of these various pesticides applied at 1 pound of active ingredient (a ludicrously high rate in terms of modern products) per acre would be equal to spreading a teaspoon of sugar over 5,000 bowls of cereal.



Notice that the type of exposure discussed here is oral. What is taken in orally at a golf course? Not much. How often do you see golfers licking the greens, or chewing on some of our fairway turf?

Protecting ourselves

Every golf course is a good habitat for a wide variety of animals that generally live there throughout the year. Most important, animals often seek out golf courses for the very purpose of raising their young. If the chemicals that are used to maintain turf are so dangerous, then the effects would be readily seen in the young creatures that inhabit the courses. If animals' young tend to die off at a higher rate in a particular area, the population is reduced and often the adults move on to better grounds.

This is not the case at golf courses. Ask any superintendent about the problems they might have with Canada geese and you'll get an earful. And that's not the only animal thriving on golf courses. Many also have abundant herds of deer, and flocks of turkeys.

We must be aware of the threats that confront us. Be prepared to stand up and speak in support of our profession and defend our position. Be willing to send letters to elected officials or newspaper editors. Use the resources you have available to you. Rely on professors at turf schools, who are knowledgeable and willing to help.

Opponents of golf are passionate people. They will not listen to the call of rationality. The only answer lies in making sure that the truth of the situation is known by the masses. Painting these opponents into a corner of absurdity is the best protection that we can provide our industry, our courses and ourselves.

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