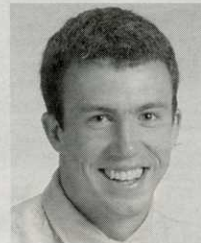


It's time to walk the walk

When it comes to environmental stewardship, where exactly do superintendents stand?

I was reasonably confident that I knew the answer to that question, but recently I have become less certain. Here's why:



Andrew Overbeck, editor

- For all of Audubon International's bluster, they have only certified two percent of the golf courses in the U.S. A scant 13 percent are members of their programs. I could have done the math myself I suppose, but the numbers were still surprisingly low.

- In a *Golf Course News* Poll last month, we found that 75 percent of superintendents surveyed said environmental stewardship was "very important" to the future economic health of the game of golf. However, if that is the case, how come only 39 superintendents showed up at Audubon's environmental session at the GCSAA Conference and Show in Atlanta?

In last month's Point/Counterpoint, contributing editor Kevin Ross eloquently explained the disconnect between superintendents' environmental goals and Audubon certification, and it makes sense. Perhaps the phrase "environmental stewardship" has become hackneyed. Maybe too much environmental mumbo jumbo was shoved down superintendents' throats

too fast. Or maybe a majority of courses are already using IPM and other environmentally responsible practices but just don't see the value in completing the paperwork necessary to join Audubon or some other environmental program. After all, no one is forcing golf courses to give up chemicals or put up bird boxes – yet.

But equally enlightening was the counterpoint made by Audubon's Kevin Fletcher. Self-regulation, through a program such as Audubon, could prove valuable to the golf industry. By demonstrating that a large percentage of courses are adhering to a set of managed environmental standards, the industry could avoid the scrutiny of federal and state regulators.

Read the story on page one about Audubon's new sustainable communities campaign. Not only does it offer a chance for the golf industry to be a leader in communities around the country, but it is also another opportunity to broadcast the message that golf courses are environmentally responsible and sustainable.

If you are still skeptical, scan down to the bottom of this page and read this month's Point/Counterpoint. The debate over golf's environmental impact (ill-conceived or not) is not going to go away any time soon.

It's the buying team, stupid

Kudos to the GCSAA and NCGCOA for recognizing what we at *Golf Course News* have known for several years – superintendents, as a rule, do not have blank checks to buy equipment and other products.

It is this common business sense that led the two organizations to merge their shows in 2005 as the Golf Industry Show. The refrain from the upper echelons of the GCSAA is this: "Vendors want more qualified buyers on the show floor." As well they should – they pay enough to be there. Some, like Club Car, attend five shows in the space of a month. Eliminating shipping and other related costs for one show will be, in the words of Club Car CEO Phil Tralies, "Priceless."

The myth that superintendents hold all the purchasing power has permeated the industry for too long. It is only now, when economic circumstances aren't what they used to be, that the idea of a "buying team," which has long been our focus at *Golf Course News*, is starting to resonate. Of the more than 18,000 people who attended last month's GCSAA show, roughly a third were qualified to make purchases on the show floor.

Even more heartening is that this doesn't seem to be simple lip service from the associations. Michael Wallace, GCSAA past president, also recognizes the need to get his bosses involved. When he arrived late to the GCSAA's media roundtable, he apologized, saying he had been on the show floor, kicking tires with his supervisor.

While this move is laudable, what leaves a funny taste is the name. Calling it the Golf Industry Show leaves it open for all sorts of vendors (apparel, clubs, etc.). A more fitting name would be the Golf Course Industry Show. But, knowing how slowly change is affected in one large association, let alone two, the current name will have to do.



Derek Rice, managing editor

POINT

Golf contaminates environment

By JAY FELDMAN

Mark Twain's quip "golf is a good walk spoiled" probably characterizes his own frustration with the difficulty of the game of golf. However, he could just as easily have been describing his concern with the golf course as a "spoiled" or contaminated environment.

Golf courses are one of the most chemically treated land areas in the United States, second only to fruit orchards. The attorney general of New York State in a report, "Toxic Fairways: Risking Groundwater Contamination From Pesticides on Long Island Golf Courses," calculated that the average golf course applies pesticides at a rate of 18 pounds of pesticides per treated acre per year, about seven times the 2.7 pounds per treated acre per year applied in agriculture. A University of Iowa medical school study commissioned by the Golf Course Superintendents Association of America (GCSAA) found that golf course superintendents suffer elevated rates of brain cancer and non-Hodgkins lymphoma, similar to farmers. In evaluating the 36 most commonly used lawn pesticides, using Environmental Protection Agency and government reviews, Beyond Pesticides finds that 14 cause cancer, 21 reproductive effects, 14 neurotoxic damage and nearly all are skin irritants and sensitizers. One product label on an organophosphate pesticide reads that repeated exposure may make a person more susceptible to the effects of this and related chemicals.

When EPA announced the phase-out of "residential" uses of the highly neurotoxic, organophosphate, insecticide chlorpyrifos (Dursban) in June 2000, it retained numerous uses, including golf course maintenance. Despite extraordinarily high levels of concern associated with children's exposure to chlorpyrifos use on turf and its



Jay Feldman

Continued on next page

COUNTERPOINT

Pesticides key to IPM program

By STUART Z. COHEN

Pesticides are an important component of an environmentally sound Integrated Pest Management (IPM) program. Turf pesticides should be used carefully and based on strong agronomic science. Their pre-market testing and evaluation are extensive, and their overall environmental track record is good. Finally, it is practically impossible to maintain a high-quality, heavily used golf course without synthetic chemical pesticides.

Pesticides should be used judiciously but confidently as part of a scientifically based IPM program. Each superintendent should establish pest infestation thresholds for all key weed, disease, insect and nematode pests. In the management plan our company produces, we establish lower thresholds that trigger specific cultural or mechanical actions, and higher thresholds that trigger pesticide applications. This helps ensure that pesticides are only used when necessary. This can also help reduce pesticide use relative to other strategies. This approach has become more popular since the early 1990s.

This more focused approach to pesticide use is supported by the trend for modern superintendents to limit broadcast treatment of pesticides only to those areas that experienced heavy infestations in previous years and spot treat other areas. These two approaches tend to reduce pesticide use without sacrificing turf quality. Finally, intelligent pesticide use is being further advanced through the recent development of pest forecasting models such as those by Syngenta and the University of California-Davis. Past and predicted weather conditions for an area are used to forecast insect, weed (e.g., *Poa annua*) and disease infestations.



Stuart Z. Cohen

Continued on next page

THE BUSINESS NEWSPAPER FOR THE GOLF COURSE INDUSTRY
www.golfcoursenews.com

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For reprint information on orders of

500 copies or more, please call PARS

International at (212) 221-9595, or

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United Publications, Inc.

Publishers of specialized business magazines.

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Rostal joins GCN advisory board

Golf Course News has added superintendent Matt Rostal to its editorial advisory board.

Rostal, 36, is finishing his second year as superintendent at Interlachen Country Club in Edina, Minn. The Donald Ross-designed layout recently hosted the successful 2002 Solheim Cup.

Rostal has spent his entire career at Interlachen, starting in 1990 on the turf main-

tenance staff while attending the University of Minnesota.

He worked his way up to assistant superintendent, and then to superintendent.

Rostal has a degree in finance from St. Cloud State University and a degree in agronomy from the University of Minnesota. He lives on property at Interlachen with his wife Wendy and eight-month-old daughter, Lily.



Matt Rostal

Golf has negative environmental impact

Continued from previous page

handling by workers, direct exposure to this pesticide will continue in and around golf courses.

Environmental impacts of the most commonly used turf pesticides include the fact that 14 have been found in groundwater and six are known to leach. Eleven are toxic to birds, 21 toxic to fish or aquatic organisms and 12 to bees. Some pesticides are known to contaminate community water systems or wells, others run off into streams and waterways. All drift off the target site, which means that they end up in neighbors' yards, schoolyards and community parks. Neither golfers nor the public at-large can take comfort in the fact that these pesticides are registered by the EPA because health and safety testing is incomplete, the law allows for many hazards, children are not protected, and some of the most hazardous ingredients are treated as trade secrets and are not disclosed on the product label.

Because of these concerns, Beyond Pesticides joined with other national environmental organizations and the golf industry to develop "Environmental Principles for Golf Courses in the United States." The principles recite areas of agreement regarding planning and siting, design, construction and maintenance. The document assumes regulatory compliance and encourages managers "to go beyond that which is required by law." In that spirit, it is hoped that golf course managers will stop the continued use of chlorpyrifos. The document stresses the prevention of pest problems through the encouragement of "maintenance practices that promote the long-range health of the turf and support environmental objectives... [including] introduction of natural pest enemies... soil aeration

techniques... reduced fertilization, limited play on sensitive turf areas, reduced watering, etc." The principles conclude that, "chemical control strategies should be utilized only when other strategies are inadequate."

The document implicitly acknowledges that there are areas of disagreement, which continue despite the important areas of agreement. For instance, one of the leading forces behind the principles, the GCSAA, emphatically states in a fact sheet that pesticides pose "no" risk to golfers and "little chance" for exposure after a liquid product has been applied "and the turfgrass is dry or the product has been watered in." In fact, numerous U.S. General Accounting Office (GAO) reports find that the majority of pesticides in use have not been fully tested and, if they undergo risk assessment reviews, allow for differing degrees of risk.

Mark Twain also said, "Fewer things are harder to put up with than a good example." There are many turf managers who are leading by example and moving the industry away from chemical dependency and toward organic and non-chemical practices. The president of the Long Island (N.Y.) Organic Horticulture Association, Stephen Restmeyer, who advocates ecological pest management, says that in almost every situation, adding compost or earthworm castings, colloidal minerals and soil inoculants will help build healthy soils. Proper soil pH, the release of beneficial insects, bird nesting sites and biodiversity are key elements. Restmeyer concludes, "Simply put, healthy soil grows healthy plants, and healthy plants are less likely to get sick."

Jay Feldman is executive director of Washington, D.C.-based Beyond Pesticides.

MAILBAG: AUDUBON VS. GCSAA CERTIFICATION



TO THE EDITOR:

Kevin Fletcher of Audubon International does a fine job in countering each of Kevin Ross' points in the Point/Counterpoint feature of your February edition. I'm very proud of my club's membership in the Audubon Cooperative Sanctuary Program (ACSP) for golf courses, but I understand that Audubon certification may not be right or even possible for all clubs.

My issue with Mr. Ross' point about the ACSP is the irony – or the hypocrisy – I see in the letters after his name. Does Mr. Ross see personal GCSAA certification of

superintendents as still having some appeal? Since only a small percentage of superintendents in the U.S. are "certified," does Mr. Ross think the GCSAA "must go back to the drawing board?"

I have no intention of being certified as a golf course superintendent. So by Mr. Ross' reasoning, my GCSAA annual dues should be \$41.67 because "in today's depressed economy" \$250 is a lot of money for some clubs. Any club that cannot afford the \$150 Audubon membership fee certainly can't afford their superintendent's GCSAA dues, let alone the cost for continuing education and attendance at the annual trade show.

Mr. Ross seems to think someone made a promise – that he considers "dubious" – that the ACSP will save

courses money, presumably by employing IPM techniques. Well Mr. Ross, no professor in turf school or anyone I've ever worked for in this business the last 20 plus years ever told me I had to join the GCSAA to make any decisions for me, either.

But if I ever had to decide between my membership in the ACSP and the GCSAA, I'll have an easy choice. At least I would know that my dues are going toward encouraging sound environmental practices by golf courses and not to feeding a ravenous, self-perpetuating, self-embracing bureaucracy.

Sincerely,
Tom Carlson, superintendent
The Venice Golf and Country Club, Venice, Fla.

Proper maintenance requires pesticides

Continued from previous page

What about all of those "organic" products you see advertised and at trade shows – products such as microbial inoculants, compost tea, enzymes and humic acids? Some of them work, some of them don't and scientifically

valid real-world field trial data are lacking for most. We typically recommend between five and 10 of these products in addition to synthetic chemicals, depending on the site and the anticipated pests.

But these types of products are never likely to completely replace synthetic chemical pesticides. This will especially be the case as long as the pesticide companies continue to develop such "intelligent" molecules as azoxystrobin (Heritage), halofenozide (Mach 2) and spinosad (Conserve).

The U.S. EPA typically requires pesticide companies to conduct from two dozen to more than 100 studies prior to granting a product registration. These studies are in human toxicology, environmental fate, crop residues, non-target insects (honeybees), aquatic toxicology and avian toxicity. The number of required studies depends on the pesticide's use patterns and its expected toxicity. Although the controlling law for these study requirements (FIFRA, the Federal Insecticide, Fungicide, & Rodenticide Act) was passed in 1972 – and heavily amended twice since then – pesticides that were registered before 1984 and not reregistered since then may have a suspect environmental database. Fortunately, most pesticides used by

today's superintendents have been registered or reregistered. The EPA makes the final decisions about which uses to allow on the label, based on the potential risks and benefits.

EPA data reviewers are thorough, and they are especially conservative in the

areas of groundwater and surface-water contamination potential. Thus most pesticides used by superintendents have been tested and evaluated thoroughly. (Pesticides used in

New York, Florida and California have been subjected to an additional level of regulatory scrutiny by state scientists familiar with local conditions.)

Overall, the environmental track record of golf course pesticides has been good, with just a few exceptions. It is true that some bird kills resulting from use of organophosphate and carbamate insecticides was documented in the 1980s, but turf use of these products has been canceled or restricted, depending on the product.

More recently, a very favorable picture emerges. We did a metastudy (a study of studies) of surface-water and ground-water quality results from 36 golf courses in North America. We analyzed more than 16,000 data points (one data point equals one analysis for one pesticide, solvent, or nitrate in one water sample). We found water-quality impacts by turf chemicals to be minimal. The rate of individual pesticide data points that exceeded an HAL/MCL guidance level for ground water and sur-

face water was only 0.07 percent and 0.29 percent, respectively.

Thus, citizen activists who imply that golf courses should be treated as if they are hazardous waste sites are misguided.

Several times, when testifying at public hearings, I have had to explain why it may be possible to grow a fairly decent home lawn with no pesticides in a particular location, but that experience cannot be extrapolated to a high-end golf course. Heavy traffic, short cutting heights and the need to have a good lie of the ball contribute to the need for insecticides, fungicides and herbicides on golf courses. This is supported by the following analysis.

There are very few pesticide-free golf courses in the U.S. There are more than 17,800 golf courses in the U.S. (National Golf Foundation, 2003). We estimate that less than 0.1 percent of these are truly pesticide-free golf courses. (Often, rumors that particular golf courses are pesticide free are not true.) We recently investigated every golf course that we suspected may be totally pesticide free and/or totally natural-organic based. We found three in this category, and another four that came very close to being pesticide free. With one possible exception, none of the courses were high quality and had greater than 30,000 rounds per year.

Basically, pesticide-free golf courses are not feasible now nor in the foreseeable future if one is planning for high traffic and high quality.

Thus, use of synthetic pesticides is necessary at most courses. It can be done wisely, and it can be done with minimal or no environmental impact.

Stuart Z. Cohen is president of Environmental & Turf Services Inc., located in Wheaton, Md.

'Overall, the environmental track record of golf course pesticides has been good, with just a few exceptions.'
— Stuart Z. Cohen