



## The big unstated issue

by Christopher Sann

**U**NSTATED BUT, NEVERTHELESS, quite clear in “What do we mean by ‘patch disease’?” (see page 8 boxed article)—and virtually every article in this publication—is a fundamental issue that needs airing. Who determines which questions are researched and which ones are left unanswered? In other words, the issue is whose perspective is more decisive in today’s turfgrass industry:

- **PRODUCT END USERS**, including both professional turfgrass managers and their customers and people who care for their own lawns.
- **“PURE” ACADEMIC RESEARCHERS**, whose primary goal is to expand the boundaries of biological knowledge.
- **PRODUCT MANUFACTURERS** and the researchers whom they directly employ or at least fund
- **THE LEGISLATORS AND REGULATORS** who promulgate and enforce everything from health and safety related rules to the rules governing advertising and claims about product efficacy and labeling.
- **AND, FINALLY, THE GENERAL PUBLIC**, many of whom may not even have a lawn, but who, nonetheless, do have a say in the regulatory process. The general public—even the inactive portion of it—also plays a variety of significant roles in the turfgrass market.

First of all, I am not trying to begin another acrimonious them versus us debate. Quite the contrary. The future of the turf grass industry depends on how well the give and take between all of these different perspectives is managed.

Currently, the perspective of the manufacturer-sponsored researcher virtually dominates today’s turfgrass industry. There are several reasons why this is so. The relatively young age of this industry—combined with the fact that the industry has little or no formal educational structure—has left the manufacturer/researcher as the dominant sources of “hard” information. This, in turn, has led to a system where most of the information that is available is generated at the behest of the manufacturing sector and is predominantly product oriented.

The industry’s regulators have had a modifying effect, but not enough of one to change the basic dynamics of the system or its dominance by product manufacturers.

Only a very small portion of available research moneys actually go to “pure” research. Unfortunately, this leaves a situation where a relatively few individuals, companies, and organizations exercise quite a bit of control over the genera-

## REGULATORY WATCH

### Feds crackdown on “haphazardous” waste reporting

THE E.P.A. AND SEVERAL STATES have begun identifying, citing, and fining hazardous waste generators, who have failed to comply with RCRA regulatory reporting requirements. Fines have totaled more than \$20 million to date, and in some cases the agency has brought criminal, as well as civil, prosecutions against offending companies.

### New regulations cover storm water run-off

THE E.P.A. IS IN THE PROCESS of implementing new regulations on storm water discharge from commercial sites. The regulations are designed to control the “non-point” discharge of pollution into storm water systems. Under these regulations, some fertilizer and pesticide manufacturers now come under the revised Clean Water Act. Two groups in the turf industry may come under the regulations:

- **FIRMS ENGAGED PRIMARILY IN MIXING** fertilizer materials
- **FIRMS THAT PRIMARILY FORMULATE** and prepare pesticides.

For additional information, interested companies should contact their nearest E.P.A. office or call the E.P.A. Storm Water Hotline at 1-703-821-4616.

### Well water survey continues

THE E.P.A. RELEASED the second phase of its National Survey of Pesticides in Drinking Water Wells. The results support the conclusions that were reached in phase one of the study: pesticides and nitrogen residues found in drinking water do not pose a serious health hazard.

The residues found in phase one were lower than established limits and the number of pesticides found was relatively low. With the exception of atrazine, a warm-season turf herbicide, no residues of turf-applied pesticides were found. Atrazine is extensively used in agriculture. ■

tion of information. The profit motive is an effective force only when it is coupled with a recognition of market needs. Advertising muddies the situation, because its persuasive power can create, distort, and even destroy the perception of real needs. For that reason information that is primarily motivated by the goal of selling products has never been a leader—rather it has been, and will always be, a follower.

Frankly, despite these limitations, the profit motive of generating information and effective products has helped this industry mature out of its infancy. This maturation is an ongoing process that probably would not have occurred without the input and dominant perspective of the manufacturer/researcher.

However, most of the easily garnered information has

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been collected. The work that remains to be done in these established areas of knowledge is mostly fine tuning. What remains to be learned about the biology of the turfgrass ecosystem will come at a much dearer price and the profit motive does not do this kind of work particularly well at all—because it tends to stop at “good enough.” As Dr. Nelson implies in his editorial, what is good enough for a sales manager may not be good enough for the biology-oriented “pure” researcher. It is also not good enough for end users, struggling with all the complexities out in the field.

The turfgrass industry needs to gradually shift the emphasis away from product-oriented information towards the real world needs of turfgrass managers and other end users. Their need for biologically specific, rather than product specific, information should become the driving force of the industry. My goal in starting this newsletter is to contribute—however humbly—to this trend. Everyone would benefit from it:

- RESEARCHERS WOULD RECEIVE THE SUPPORT they need in order to spend more time and effort to independently answer biology-based information needs.
- MANUFACTURERS WOULD BE ABLE to take that information and, where appropriate, develop new products or techniques that put the information to work.
- REGULATORS WOULD BE ABLE TO USE the information to develop better, more appropriate rules and regulations.
- AND THE PUBLIC COULD CONCENTRATE on weightier matters that cry out for its attention—confident that the management of the huge amount of land devoted to turf is being handled effectively, efficiently, and in an environmentally sound fashion. Hysteria and misinformation would have much less impact than they unfortunately do have at the present moment.

There are a series of internally and externally generated “philosophical” questions, with which the turfgrass industry is now wrestling, such as are we devoting enough, or too much, of our limited resources to the management of these non-crop plants.

For the most part, these questions have been left unanswered due to a lack biologically specific information. If—or let’s be optimistic and say when—this information begins to flow, in a more consistent manner, many but not all of these questions will resolve themselves. Some questions will still remain for which there are no clear-cut answers. Then we, as members of an evolving society, as well as an evolving industry, will be better equipped to face the vagaries of nature and the uncertain opportunities of the future. ■

#### ASK THE EXPERT

HAVE A QUESTION on any aspect of turf management? Send it to: Ask the Expert, Turf Grass Trends, 2070 Naamans Rd., Suite 110, Wilmington DE 19810-2644 or fax it to (302) 475-8450. If we can't answer your question, we will put it to the best available expert on the subject.

## ON THE HORIZON

### Killer proteins identified

ENGLISH RESEARCHERS have recently shown that a new group of naturally occurring toxic plant proteins can be effective in controlling sucking insects. The toxic, plant-produced proteins may have potential as pesticides, or they might be introduced into bio-engineered plants.

### Dry encapsulation benefits workers and plants

MONSANTO HAS INTRODUCED a third micro-encapsulated product, a dry herbicide in a microscopic polymer shell, for the agricultural market. By varying the size of these water-applied shells, this technology offers improved worker safety, possible reduced application stress effects, increased resistance to leaching, and time-release characteristics not found in existing traditional liquid-applied formulations. In the future, this technology may lead to advances in liquid and granularly applied pesticides for the turf industry.

### Biological controls are tricky

BIOLOGICAL PEST CONTROL, using biological predators to control pest infestations, has been the subject of increasing interest, particularly in agriculture, but there are serious limiting factors to their use on turf becoming widespread:

- THE TIMING OF CURATIVE APPLICATIONS can be difficult, particularly if the bio-control agents need to be grown to order. By the time the controls are applied, major damage could be done, or the pest may no longer be present or vulnerable.
- PREVENTIVE APPLICATIONS WORK BETTER, but, given the limited life spans of some bio-control agents, timing may be a problem.
- QUALITY CONTROL IS A MAJOR PROBLEM. Both production methods and transportation conditions can have dramatic effects on the efficacy of the control.

Interest in biological controls will continue, as will research on overcoming the problems associated with them, but turf managers should not expect dramatic advances in the immediate future.

### Are drift control agents coming to turf?

DRIFT CONTROL AGENTS are materials designed to help applicators control the drifting of pesticides to non-target locations. Added to sprays, small amounts of these chemicals have been shown to reduce drift deposits on off-target locations by 50% to 80%. They were also shown to increase the amount of pesticide reaching the targeted area by 33%. Their proper use may allow for reduced application rates. Drift control agents are not yet available to the turf industry, but 15 such agents are in use for agricultural applications. ■