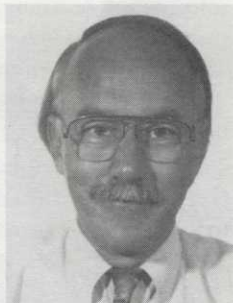


Dear reader:

**Turf Grass Trends is back — to stay**



**T**urf Grass Trends has always had the editorial resources to publish issues densely packed with information needed by everyone in the industry, from manufacturers to lawn care operators. Christopher Sann, the founding publisher, proved that. But for a few months, the business side of the publication had the hiccoughs.

Chris' idea to launch *Turf Grass Trends*, a newsletter for professionals and the first one in the field, on a shoe string was a daring idea. He took that idea to the editing and graphics design team of Russ and Connee McKinney. The three of them, ably aided by Dr. Eric Nelson of Cornell University, were pioneers and sometimes pioneers stumble in uncharted wildernesses.

I have about twenty years of experience at newspapers, magazines and newsletters. Some of that was at the helm of publications. I can help chart the way for the business side of *Turf Grass Trends*.

On the editorial side, we'll give you, every month without fail, the quality that we've always given you. Beginning with this issue we're adding more: 16 pages instead of 12 pages. Over the course of the next few months we'll be adding more practical news and features. And we'll be getting to know each of you personally as we call on you to ask what you want from us. As time goes on, look for us to bring you more, useful information in new ways, perhaps accessible by telephone, fax or computer.

The changes we are making to *Turf Grass Trends* are important because in the 1990s and beyond there will be sea changes in how things will be done in the turf grass industry. Upcoming issues will help everyone deal with the new technologies already beating on our doors and those to come. These sea changes will force us to do business in ways that we are not able to imagine now.

With our core team of Chris, Eric, Russ and Connee and experts on and off the field, we'll give you what you need to chart your course. And for you, loyal readers who have stuck with us through thick and thin, we're adding three extra issues — free of charge — to your subscription.

Bon voyage,

Juergen Haber  
Publisher

*Errata:* The chart of the life cycle of Japanese beetle (*Turf Grass Trends* #3, page 10) was based on a design by L. Hugh Newman, *Man and Insects* (London, 1965).

COMING ATTRACTIONS

DECEMBER ISSUE

**Environmental regulations**

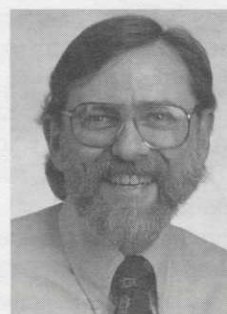
For our second main topic we chose the subject at the top of our initial subscribers' list of concerns: environmental regulations. Obviously, an impossibly big subject. This issue will be, therefore, only a opening salvo. In it we provide:

- AN OVERVIEW OF THE KEY ISSUES involved in the seemingly haphazard growth of environmental regulations,
- AN ANALYSIS of the turfgrass specific figures on violations and penalties,
- UPDATES on several key controversies involved,
- THE PERSONAL "REGULATORY INSPECTION" experience of an individual lawncare operator,
- A DIRECTORY to help our readers act on the advice to get better informed about, and more involved in, the legislative and regulatory processes by which new laws and regulations are developed,
- AND A SHORT DICTIONARY of environmental laws and terms,

In the coming months, we will return to this subject time and time again.

**Alligators all around**

by Russ McKinney



**T**ODAY'S TURF managers face a daunting combination of challenges:

- INCREASING environmental regulations are changing the way every segment of the green industry does business,
- OUR ECONOMY is undergoing fundamental structural changes that are difficult to grasp—much less to manage,
- AND THE RELIEF PROMISED by the explosion of new knowledge and new tools is complicated by obstacles to accessing these new resources and putting them to use in the field.

It's easy to feel swamped.

In this context good information obviously isn't a luxury. It can make the difference between successfully managing to change with the times or becoming alligator bait.

—continued on page 14

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**. . . good information obviously isn't a luxury. It can make the difference between successfully managing to change with the times or becoming alligator bait.**

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In its first six issues, *Turf Grass Trends* set a new standard for providing good, timely, usable information. We delivered a product that didn't leave anyone asking "where's the beef?" We got rave reviews. Then the lights went out. Now they are back on—to stay. In fact, we now have the financial and organizational resources to make *Turf Grass Trends* even better than it was. We will continue to provide in-depth coverage of a key turf management subject in each issue. We also will provide more news, more special features, and more information in every issue—a full 16 pages worth.

Why publish an newsletter, instead of another trade magazine? Because no one else is providing the kind of in-depth, turf management information that *Turf Grass Trends* provides. That is not to say that existing trade magazines aren't doing their job. In fact, they provide a variety of valuable services to people in the field. To cite two related examples, *Landscape Management*'s Ron Hall pointed out that, despite all of the concerns over pesticide exposure, he himself developed skin cancer from overexposure to the Sun. Isn't that always the case? When we aim all of our binoculars to the north, the alligators come at us from the south. We may manage all the complex issues just fine, but some simple factor we all tend to take for granted turns out to be the critical one.

Bill Knoop, an Extension turfgrass specialist at Texas A&M University who is a regular contributor to *Southern Turf Management*, made a similar point. He asserts that the public's concerns about pesticides are mostly focused on professionals, who are trained and certified in pesticide use, while largely ignoring the problem of homeowners and the retail stores where they buy their pest control products:

"There is a strong chance the store will not have anyone on staff who knows much about landscape pests at all, yet these clerks make far more pest control recommendations than any Extension service."

The green industry clearly needs voices like Hall and Knoop and others, and it needs to make the insights they provide more available to the general public. We believe the industry also needs a newsletter that takes an approach to the subject of turf that is lean and mean, no frills and distractions, just solid information. That's why *Turf Grass Trends* focuses on untangling the complexities of the regulatory environment, the marketplace, and the new technical

information becoming available about virtually every aspect of turf management. The winds of change are blowing. There is a lot of ground to cover.

In advertising-driven magazines, after the initial spreads, the editorial is frequently run in what graphics designer's call a "gutter"—in between the columns of displays ads. Our idea is that the editorial needs to have the whole road to itself. We plan to cover a lot of territory in every issue of *Turf Grass Trends*.

In this issue, Christopher Sann provides an innovative field perspective on necrotic ring spot, the confusion-causing differences between leaf and root diseases, and how temperature, the time of year, and your own nose can help you to tell one root disease from another. Of course even this formidable array of tools isn't enough. Sann also sounds a theme that will be explored more fully in future issues: both the microscope and the microchip are playing increasing roles in turfgrass management.

Plus veteran business reporter Jim Parks provides a turf-focused look at the prospects for long-term recovery from the devastating floods that hit the Midwest in 1993. Talk about being surrounded by alligators! The Midwest floods prove once again that nature is the ultimate variable. The sheer amount of devastation is hard to grasp, and the responses of turf professionals in the flooded area are object lessons in how the human spirit is as vital as our technical understanding.

Of course river water isn't the only form devastation can take. Ask the DuPont Co. Turns out that a DuPont fungicide named Benlate attracts alligators: literally hundreds of lawsuits that have cost the company millions of dollars. Even though DuPont won one of the major court battles involved, the situation, which has received considerable national media attention, is every manufacturer's nightmare come true.

Adding insult to injury, the company is also downsizing, and earlier this fall announced another round of extensive cuts in personnel. The future of the turf industry is obviously not tied to the fortunes of any one company, but the availability of good products and equipment is a critical issue. So are judgements about the effectiveness of the products turf managers use and the risks and liabilities involved in their use.

Clearly, *Turf Grass Trends* won't make the floods abate. It won't eliminate product liability disasters. It won't decide how major environmental controversies are settled. And it won't reduce the complexities of turf management to a few easy to follow rules.

But you, our readers, are the people on the frontline who have to deal with everything from the vagaries and complexities of nature to the uncertainties of the market and the hurly burly processes by which environmental concerns become laws and regulations. You deserve the best available help, and that is what we aim to provide. ■

## Diagnosing leaf and root diseases

by Christopher Sann

**A**NY DISCUSSION of the diagnostic differences between foliage and root damaging diseases of turfgrass must begin with a simple truism: Forget any of the skills that you, the turfgrass manager, have developed for diagnosing foliar diseases of turf from any distance further than three inches." When it comes to diagnosing root diseases, at best, these skills will be useless and, at worst, they will give you incorrect diagnoses more times than not.



When dealing with most foliar diseases, there are often a group of highly "diagnostic visual symptoms." They range from species specific leaf lesions to whole site patterns of disease activity. A skilled diagnostician can literally diagnose some foliar diseases while driving by at forty miles per hour. Unfortunately, that kind of visual detecting will not work with root diseases. In fact, it often leads to mis-diagnosis, inappropriate applications of control chemicals, and the extra expense of additional control materials and the cost of labor and machinery to reapply.

The days of "seat of the pants" field diagnosis are numbered. If the cost and aggravation of mis-diagnosing turf grass diseases doesn't make us want to change our approach, then the regulators will. One way or the other, we are entering a new age where we have to qualify, quantify and justify why we make every pesticide application. We might as well get used to the idea.

### "Diagnostic" symptoms

The problem with trying to transfer the visual skills of pattern recognition and lesion identification—the tell tale signs of foliar turfgrass diseases—to the diagnosis of root diseases is that there are few, if any, truly diagnostic, unique visual symptoms that consistently occur in root disease symptomology.

To be sure, the symptoms of root damaging diseases are often very different from most of the more familiar, "diagnostic" symptoms of foliar diseases, but these different symptoms are so common within this group—and for that matter in the advanced stages of many of the foliar diseases—that they could be caused by any of a dozen pathogens. Historically, with the use of the broad spectrum heavy metal-based fungicides, the fine distinctions between the various pathogens was a moot point. But in today's highly charged regulatory atmosphere, with the increasingly narrow focus of newer fungicides, this distinction has become crucial.

### How to look for root disease symptoms

Vision is still the best tool for making correct diagnoses in the field, but, in the case of root diseases, your

vision should be augmented with a 8 - 10 X hand lens, a soil probe, a sample cutter (like a sturdy pen knife or a putting green hole cutter), and a major revision of attitude.

We need to reverse the historic approach of starting at the top of the turfgrass plant and working down to the crown and maybe the roots. Root damaging diseases kill roots. Often the infected plant has sustained massive root loss before any symptoms can be seen on the foliage. Additionally, the more opportunistic foliar diseases will colonize turf that is under attack from root pathogens, and simply identifying the "diagnostic symptoms" of these foliar infections will give you a false impression about what is happening and in what order.

This common mistake can be avoided if you start at the bottom and work your way up. Start by taking a sample from the margins of the damaged area, pry it apart, and examine the roots with your hand lens. If the roots looks healthy (i.e., white with abundant root hairs), then examine the crown. If the crown also appears healthy, then finally examine the foliage.

If, after using this bottom up approach, you cannot find enough visual clues to come to a conclusion, then either further examine the sample under a good microscope, using a good reference book like "The Compendium of Turfgrass Diseases," or send a sample to a good diagnostic lab. Most major state universities either have diagnostic labs or can recommend one. ■

*Latest Word continued from page 7*

### Worker exposure study

K.A. HURTO AND R.A. YEARY of Trugreen/Chemlawn measured how pesticide exposure to workers varied by equipment and formulations and how much of the applied pesticide was recoverable over time. Compared to worker exposure from using granular application drop spreaders

- FINE DROPLET SIZED LIQUID application equipment exposed workers to 15 times more pesticide.
- LARGE DROPLET SIZED LIQUID application equipment—10 times more.
- LIQUID BACKPACK SPRAYERS—four times more
- GRANULAR ROTARY SPREADERS—two times more.

The thigh and lower legs received 99% of the exposure during liquid applications, while areas above the waist only received 1% of the exposure.

The residues that could be recovered from turf following a liquid application were 25% of the total amount applied, one hour after the application. This amount decreased, after two hours, to 7%; after 1 day to 6%; after 7 days to 2%; and after 14 days to <1%. When treated area was irrigated two hours after the application, the amount of pesticide was reduced by an average of 45% for each testing day.

When a liquid application was compared to a granular formulation of the same material, the recoverable residues of the liquid were 20 times that of the granular formulation. ■