

Turf Grass TRENDS



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Environmental regulations

**Lean and mean 80s give way
to clean and mean 90s**

by Russ McKinney

TURFGRASS MANAGERS were more focused on new products, equipment, and production standards in the 80s. Now they see environmental issues as their greatest concern. The big questions are: How clean? And how mean?

The growth of regulations over the last 25 years has been controversial, and shows no signs of abating. The regulations have produced some desirable results—such as increased sensitivity to the obvious shift in public attitudes and the risk reduction achieved through compliance—but a combination of factors has made the environment a number one worry. They include:

- THE SHEER NUMBER AND SCOPE of areas impacted, from the handling of pesticides and the availability of some products to right to know rules, the disposal of yard wastes, and a variety of water management issues,
- THE UNCERTAINTIES generated by state and local proposals and ordinances as well as evolving federal mandates,

- AND CONTINUING DISAGREEMENTS over the scientific issues involved.

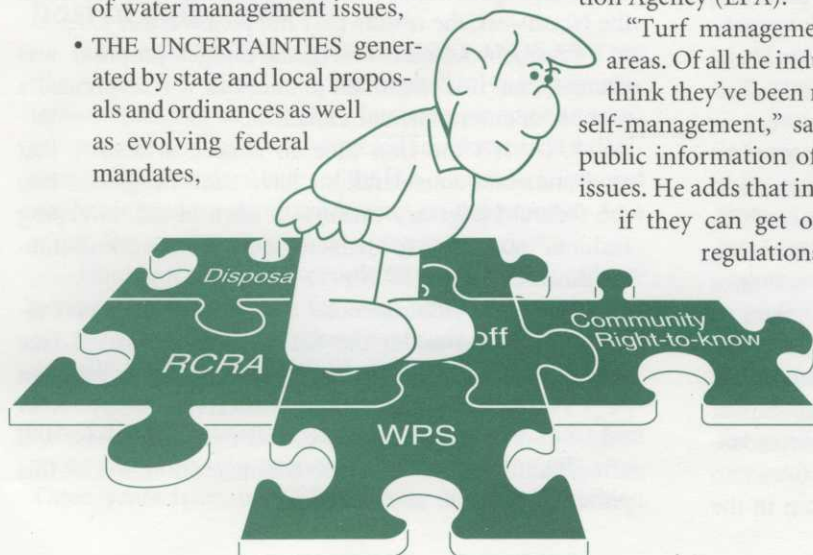
The regulatory development process has been helter skelter, because of the impact of headline-making incidents and other shifting currents in the marketplace and in government priorities. However chaotic the process has been to date, the bottom line is that America is becoming a more planned, more data-driven, and more regulated society. Turf grass management and a long list of other products are tested, measured, analyzed, and tested again and again. In fact, the same exact science that has given turf management an unparalleled host of effective products and equipment has given society, in general, new ways of detecting minute residues and assessing the associated risks and costs. Unfortunately or not, the scientific and regulatory controversies involved are complicated by alarmists on all sides.

Turf looks good

Enforcement evidence, detailed on pages 6 and 7, suggests that most turf grass managers are bringing their operations into compliance. In fact, the environmental record of the turf grass industry, in general, and golf course superintendents, in particular, have won some hearts and minds—even at the U.S. Environmental Protection Agency (EPA).

"Turf management is far ahead of other areas. Of all the industries that I've watched, I think they've been really outstanding in their self-management," says Al Heier, the agency's public information officer on pesticide-related issues. He adds that industries fare much better, if they can get out ahead of government regulations.

Reinforcing Heier's
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point is the fact that the EPA generally targets areas for monitoring and enforcement where violations are the highest, the most likely, or the most obvious—and where the potential for risk reduction is greatest. That, in large part, is why the manufacturing sector of the green industry and turf's big brother, agriculture, have been, and still are, more of a focal point for regulatory action than turf management. Both manufacturing and agriculture are concentrated, high volume chemical operations. Even the most highly managed turf grass sites offer far less potential for risk reduction. In fact, a variety of studies have examined the environmental safety of managed turf. They found it safe to walk on, safe for pets, and not a major source of pesticide or fertilizer run-off or ground water contamination.

To cite just one example, a two-year study conducted by Dr. Martin Petroic and Nine Roth Borromeo at Cornell University concluded that there is little potential hazard to water supplies from pesticide and fertilizer applications to turf. They found that hazardous material leaching from managed turf sites is not likely, because of the high plant density and the presence of thatch. (They recommended that turf managers and landscapers be more aware of the environment around the sites they manage, especially drainage areas, and consider the season, short-term weather, the characteristics of the soils and the materials applied, and the real needs of the turf.)

What turf management has in greater abundance than both manufacturing and agriculture is public exposure. Lawn care and landscaping companies provide services directly to homeowners in full view of their neighbors, and people walk around golf courses and campuses. The public rarely sets foot in a chemical plant or on a farm. In fact, people in the chemical industry wish they did. Many manufacturing plants hold open houses and make other community outreach efforts. Showing critical members of the public the precautions and safety systems in place can help dispel fear of the unknown.

Despite the fears of many turf grass managers about the potential harm of environmental issues, the golf industry is not being singled out, and regulation is not as extensive, nor as intensive, as that faced by other industries, according to a study sponsored by the National Golf Foundation and funded in part by PGA of America, PGA Tour, USGA, and LPGA. This conclusion is reinforced by the relatively limited amount of enforcement activities directed at lawn care and turf management operations.

"There just aren't enough people there (in the states) to do a lot of enforcement actions," says Mr. Heier. He points out that in fiscal 1991 the EPA awarded the state of Florida, which has enormous agricultural and resort industries, only \$300,000 for enforcement. That translates into 1.5 people for administration and 4.5 people out in the

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field making inspections. Last year the EPA's Lawn Care Monitoring Initiative called for each state to conduct at least 10 inspections of lawn care companies—a relatively small number even by the standards of small states.

Both state and federal regulators have bigger fish to fry. For example, major environmental regulatory actions were expected this year in Pennsylvania and New Jersey, but not ones in which turf manage-

ment operations or practices are central. According to *Focus* (a Philadelphia business magazine), most of the anticipated actions concern new air and water pollution standards and a variety of hazardous waste issues, including clean-up liability and underground oil storage tanks. Moreover, three counties of southern New Jersey across the Delaware River from Philadelphia are examples of northeastern areas where water shortage is a major, longstanding problem—and a source of uncertainty over water use restrictions. Development of a long-term solution to the underlying problem—overuse of aquifer water—has been slow, because several municipalities in the area successfully sued the New Jersey Department of Environmental Protection over their designation as critical water supply shortage areas.

Impact of new Clinton-Gore Administration

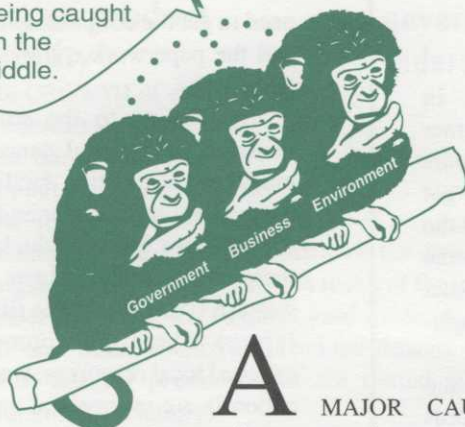
IN HIS AUGUST, 1992, STATEMENT on the new worker protection standard, now former EPA administrator William K. Reilly said, "I am proud of this product." A big question this year was how ambitiously the new Clinton-Gore administration would be about toughening EPA's "products." The consensus approach involved in the President's Council on Sustainable Development may indicate how the new administration will try to work together with environmental and industrial groups, but, as with his proposed solution to timber industry problems in the Northwest, the results may not please either side.

President Clinton's original budget proposal was changed, but it is important to note that it incorporated a number of environmental initiatives.

"... It's the first time in American history that environmental considerations have been integrated into the federal budgetary process in such broad, sweeping fashion," according to Gannett News Service commentator Edward Flattau.

Obviously environmental actions in general have already increased under the Clinton administration (*see Regulatory Watch for the most recent developments, on page 14*). A host of factors, from budget restraints to other major domestic policy debates and overseas crises, will affect the impact of the new administration, but at this point it is difficult to predict how.

I'm tired of being caught in the middle.



A MAJOR CAUSE of uncertainty over environmental regulations is the sheer number of laws, regulations, agencies, and issues involved. These summaries by no means exhaust the subject:

LAWS

■ Revised Clean Water Act

Federal legislation governing water pollution control, including both storm water discharge and non-point run-off. Related new regulations were implemented in 1992. This law increased regulations governing the manufacturing, mixing, and formulating of fertilizers and pesticides.

■ Safe Drinking Water Act

This 1977 law regulates the quality of water in public drinking water systems and the disposal of wastes in injection wells.

■ Emergency Planning & Community Right to Know Act

This 1976 law, resulting from the chemical accident in Bhopal, India, mandates state development of plans for chemical emergencies, accident and release reporting, and related trade secret issues.

A related bill expected to be re-introduced at some point is the Notification Control & Application Act, which would establish a registry of chemical "sensitives" and increase posting requirements on home applications.

■ Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)

This 1976 law regulates the manufacture, distribution, and use of pesticides and research into their health and environmental effects. It is administered by the EPA.

In general, FIFRA increased training requirements for certified pesticide applicators, increased fines for violations, and increased training for state enforcement personnel. It is also the law under which the new Worker Protection Standard (WPS) and related labelling requirements were developed.

A FIFRA re-authorization bill was introduced, but not passed, in 1991. A new bill may be introduced this year, but controversies over its provisions and likely amendments, regarding minor use chemicals and pre-emption of local use restrictions, make smooth sailing unlikely.

Another focal point of debate between indus-

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Regulations reflect a host of cofactors

ENVIRONMENTAL REGULATIONS AND LAWS are like celestial bodies. They are pocked with impact craters—depending on whether a business group or an environmental lobby or a well-covered incident made a decisive mark on the final letter of the law. Court decisions and academic studies also have impact on the process. As a result, the quality of regulations tends to vary.

Hard as it may be for people on the firing line to have perspective on this issue, for front-line turf grass managers, the development of federal environmental regulations actually has been, and will likely continue to be, a fairly gradual process. Fifteen years after the EPA was established in 1970, small volume generators of hazardous waste began having to meet environmental regulations. Three years later, in 1988, the new Worker Protection

Standard (WPS) was first proposed. Five years later the 70 pages of the new WPS regulations were finally released in August, 1992. The new WPS labels went on pesticides in April, and implementation of portions of the new standard will be phased in over the following year.

Part of what has made this relatively gradual increase in environmental regulations such a source of worry to turf managers is that environmental concerns are not narrowly defined. They encompass a whole range of complex related issues. For example, the National Golf Foundation report cited above also noted that developers of new golf courses face heightened public concerns about wetlands and people or groups who favor limits on development. These factors tend to lengthen the process involved in major construction or expansion plans, because a period for public comment is required. They can also stop a project from happening. Managers involved in such projects

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What's it like to be inspected?

WHEN KEENER-SENSENIIG LANDSCAPING, INC. in Newark, Delaware, was inspected, managing partner Dana Ressler says the inspector spent about three hours and did find a variety of violations, but he says, "he wasn't there to get me. He was there to help me." However, he adds that the tone of the encounter could have been different, if the inspector had come because of a complaint or if he had found a pattern of violations that suggested something less than a "good faith" effort to be in compliance.

The inspector checked such things as the company's license and whether its license number was on each of its vehicles and its records of pesticide applications. He pointed out what the company needs to do to correct the deficiencies.

"We didn't have records of the weather conditions on the particular lawns," says Ressler. Local weather reports aren't specific enough, so he says he is now searching for a portable unit that can read the wind speed and take the air temperature at each site. The inspector also found that all of Ressler's employees did not have the required photo-identification cards.

While saying that he thought almost all of the requirements that he had to meet were reasonable, Ressler is also searching for the required back flow protector—to prevent liquid from a tank from being taken up into a hose used to fill the tank. Ressler points out that such a possibility is "freakish," but he is checking farm supply companies in his area to see if he can find the right equipment.

"I don't think it'll take us longer than five minutes per customer to fill out the paperwork," says Ressler. He uses ready-made, commercially available forms, which have spaces for most of the necessary information. Keener-Sensenig works on shrubs as well as lawns, and Ressler says documenting the specifics of applications to shrubs is more involved than documenting applications to lawns because of the variety of ornamental plants.

Ressler supports enforcement actions against people operating without a license or without the proper training, pointing out that substandard operators hurt legitimate companies by unfairly competing against them. Remembering the liability insurance crisis of the mid-1980s, he sees compliance as a form of self-defense.

"It's actually protecting me," he says. ■



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need to get the community outreach and the paperwork rolling early in the process.

According to the study, the major environmental concerns for managers of existing facilities are the availability of water and the use of pesticides, both of which tend to increase operating budgets. In dry, western states and states (like New Jersey) where development has exceeded local resources, water allocation is a controversial and hotly contested issue. Even in states where water use is normally not a problem, drought emergencies and the opposite problem of extensive flood damage can make an issue of water use. All states have emergency plans in place, and many facility managers already have implemented alternatives such as the storage and use of effluent water.

In addition, in their efforts to comply with RCRA, nearly half the states have sought to ease pressures on landfills by banning their use for yard waste, which represents about one-fifth of all solid waste (*see table on page 7*). Mowing, dethatching, pruning, and leaf removal all generate a substantial amount of organic matter—35 millions tons annually, according to the EPA. Increasing amounts of this material are being composted, but only 4.2% of the total volume of yard waste generated. The number of facilities that compost their own yard waste is growing, and so is the number of composting facilities. While there are benefits to this trend, it still represents yet another area of adjustment.

The EPA and organizations such as PLCAA now encourage leaving grass clippings on lawns. There are good reasons for doing so: unlike thatch, which contains high levels of lignin that makes thatch slow to decompose, clippings break down quickly. However, spreading clippings from an area of turf infected

with a disease such as Pythium during the hot summer months, can produce disastrous results.

Impact on product availability

THE GROWTH of environmental consciousness also has impacted the marketplace and the products and equipment available to professional turf grass managers. For example, much of the interest in mulching mowers in recent years is a result of the increasing number of landfill bans against yard waste. A glance through any trade magazine provides dozens of examples of ads for products that are touted as more environmentally friendly.

The environmental rules that have been applied to the manufacturing sector of the green industry are much more involved, more expensive, and more dramatic in their impact on the marketplace. Manufacturers are also subject to intense scrutiny by environmental groups, such as Greenpeace.

New laws and regulations are already affecting both the availability of existing products and the development of new products—and additional dramatic impacts are expected. The complicated and still changing rules governing the manufacturing and use of pesticides mean that manufacturers have to spend more time and money to keep existing products on the market, and they have to think twice before bringing a new product to the market.

"They're going to see more defense of old products than efforts to bring out new products," says James Petta, business manager of the Turf and Ornamental Department at ICI Americas Inc. A number of companies in the field announced fewer new products in 1993 than in previous years.

Petta points out that manufacturers are tied to two-three year automatic studies, and must decide beforehand if a product has enough potential to warrant the expenses involved. In fact, it takes a manufacturer seven to eight years of research and development to bring a new product to market. The impacts of increasing environmental regulations have been slowing the flow of new products, lengthening the time it takes to get a new product to market, and increasing the costs of production.

"The cheap thing is to find out if it works," says Petta, noting that approximately 85% of manufacturer's research dollars are tied up in looking at a product's environmental "profile" and its toxicity. In fact, studying and debating the safety of some products—like 2,4-D—have practically become whole industries by themselves.

Another concern here is a combination of local environmental ordinances and permitting requirements, which could mean the industry would have to conform to—or spend time and money opposing—hundreds or even thou-

" Professional turf managers need to be involved in local government right up to the federal government."

— JAMES PETTA
ICI Americas Inc.

sands of variable and, in some cases, extremely unreasonable standards.

"You've got to watch the back door. This is one of the most serious threats to turf managers," says Petta. He adds that "professional turf managers need to be involved in local government right up to the federal government." The

EPA reversed its policy in March, 1992, and since then has supported state pre-emption of local pesticide regulations. The issue could be resolved through an amendment to FIFRA—a lot of wheels are in motion.

Outreach efforts are expanding

PETTA'S CALL FOR GREATER PROFESSIONAL involvement in the legislative and regulatory process and associated public debate on the issues may be one of the most frequently sounded themes for the 1990s. To cite just one example, the National Golf Foundation study recommended establishment of a clearing house for information about the golf industry and increased networking with other industry groups.

Another increasing form of action is publicizing the environmental friendliness of the industry. Ciba-Geigy is involved in a Environmental Steward Awards program that recognizes innovative superintendents. More than 500 golf courses nationwide have signed up for the Audubon Sanctuary Program run by the Audubon Society of New York and funded by the U.S. Golf Association.

State turf associations and a variety of national organizations, such as PLCAA and Responsible Industry for a Safe Environment (RISE), are increasingly involved in "public comment" activities regarding specific laws and regulations. Many general business organizations, such as state Chambers of Commerce, have organized environmental committees that monitor, and comment on, state environmental actions. In short, there are ample opportunities for turf managers to become more informed and more involved in making their views and their industry's track record better known.

One noteworthy factor dampening this wave of openness, outreach, and enhanced dialogue is liability. Labeling regulations, the Superfund experience, law suits, occasional crises over the cost and the availability of liability insurance (such as the "Liability Crunch" of the mid-1980s), and a host of related controversies have been, and continue to be, costly to both business and government.

The media's spotty record on accuracy adds to the problem. All of these factors tend to make people cautious about what they say and what they recommend. For example, the Alliance for a Clean Rural Environment (ACRE) published a booklet in *Farm Chemical* magazine designed

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to help farmers see the need for complying with safety rules, but it felt obliged to put in the following disclaimer:

Notice to reader: *ACRE makes no express or implied warranties as to the recommendations contained in this publication and assumes no liability for any injury or damage, direct or consequential, which may result from the use of the information in this newsletter.*

Even the government itself is careful about this issue. For example, the EPA's *Layman's Guide to the Toxic Substances Control Act* states that "the following sections briefly describe the major provisions of T.S.C.A. The discussion is intended to familiarize the public with the provisions of the law, not to constitute an authoritative legal statement of it."

In a related vein, a turf manager may feel reluctant to call a regulatory agency—even to clarify what a particular regulation requires. Such an attitude is clearly erring on the side of caution. State and federal agencies are genuinely interested in providing information and encouraging compliance.

How clean is clean enough?

ONE OF THE BIGGEST regulatory problems is the unresolved conflicts concerning standards for what is clean enough—in a world where parts per billion are detectable. The questions and debates have both political and scientific dimensions. Most of them boil down to disagreement over the right standards for, and the right ways of handling, risk management.

In this context, it is important to understand the incident-driven character of public opinion, media coverage, and the subsequent development and enforcement of new laws and regulations. The local newspaper here in Wilmington ran a headline that illustrates this point: "Boy's death prompts look at site safety." Among the thousands of such local stories are incidents that are like the proverbial shot heard round the world. The most obvious example is the 1985 accident in Bhopal, India, where over 2,500 people died as a result of a leak of methyl isocyanate at a Union Carbide plant. This incident led directly to the Emergency Planning and Community Right to Know Act of 1987.

The incident involved also can be a court decision, such as the recent Supreme Court decision to let stand a lower court's decision involving the Delaney Clause, which prohibits introducing carcinogens, including pesticide residues, into food products. Another important case involved an effort by OSHA to speed-up restrictions on workplace chemicals by grouping them. A federal court ruled against the practice, forcing OSHA to return to the slower on at a time approach.

On a more immediate level, individual and commu-

nity complaints can be potent process-driving incidents. Agencies responsible for enforcement may have limited resources, but squeaky wheels get oiled.

Scientific studies are one way that these controversies over health and environmental risks are properly settled. The EPA conducted a National Survey of Pesticides in Drinking Water Wells, and is now studying potential risks to birds from 14 granular pesticides. A host of academic studies, such as the Cornell study cited above (*see page 2*), have produced a steady stream of evidence, and individual companies and industry groups are also involved in sponsoring studies. Unfortunately, data-based facts and conclusions are not universally available nor accepted even when known. Partisans on all sides of a given issue tend to attack one another's credibility, but trends toward acceptance of data-driven conclusions continue growing.

The bottom line

WHILE TURF MANAGEMENT professionals and companies continue to put the turf industry in the forefront of the movement toward a "clean and mean" society, they clearly need to be more involved in community outreach and in lobbying government. These activities involve different challenges than those involved in managing turf, but ones that are just as essential to the future of the industry.

Obviously, the issue of the environment is not going to go away. In fact, two-thirds of 130 media representatives polled by Pinnacle Worldwide of Minneapolis, Minn., expect coverage of environmental issues to increase. Long-term Greenpeace and other environmental groups will continue to push for "full public disclosure" concerning every step in the process: development, manufacturing, distribution, and use and fate of pesticides.

The challenge is to find common ground. For example, professional turf managers and environmental groups both want to see more research into "alternative, non-chemical methods of pest management." The problem is that further developments in this area are research dependent, and turf managers have to deal with the problems they face today. Manufacturers have increased research spending on pest control alternatives, but ICI's Petta cautions that there are no "magic bullets." ■

ASK THE EXPERT

HAVE A QUESTION on any aspect of turf management? Send it to:

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