The FQPA

What you need to know and why you should care

By Frank H. Andorka Jr. Managing Editor

Superintendents can't know it all. With information bombarding them on a daily basis — on disease resistance, about the latest in adjuvant technology and the West Nile virus — they don't have time to dissect the details of most federal legislation.

But that doesn't mean that federal law doesn't affect what they do every day. One piece of legislation that most superintendents aren't familiar with is the Food Quality Protection Act, or FQPA. Passed in 1996, it mandated that the Environmental Protection Agency (EPA) review 9,700 environmental tolerances (which the EPA defines as the maximum amounts of chemicals allowed to remain in or on foods) of 600 pesticides by 2006. In establishing these tolerances, the law requires the agency to consider *all* uses of the chemicals, including turf uses, when establishing a tolerance. If the combined uses for a pesticide exceed the established maximum levels, the EPA has the right to remove the chemicals from the market.

The process is costly for the companies who must defend the chemicals when they come up for review. The expense forces hard decisions about which chemicals will stay in the market and which will go.

The companies say the input of superintendents is vital in making those decisions. Many superintendents don't take the time to get involved, however, either because of

time constraints or the assumption that others, like the GCSAA or its local chapters, will fight the legislative battles for them.

"I don't think most superintendents are well informed [about the FQPA]," says Jim Nicol, certified superintendent at Hazeltine National GC in Chaska, Minn. "There are some that are, to be sure, but if it's 10 percent who know about it, I'd be surprised."

But experts say superintendents should be intimately involved in the process because important chemical tools could disappear in the post-FQPA era. And as one successful intervention by a local association in Florida proves, superintendents can make a difference.

What the heck is the FQPA?

Like so many pieces of federal legislation, the FQPA sounds like it's straight out of an alphabet soup commercial. Its name does not cause alarm among most superintendents (in fact, mention the FQPA to a group of 20 superintendents and 38 eyeballs glaze over). That doesn't mean, however, that superintendents shouldn't pay closer attention to it.

Under the FQPA, the EPA's charge was to assess the risks of all pesticides in *all* uses, combining agricultural, turf and landscape ornamental uses into one evaluation called a "risk cup." If the aggregate risks cause the "cup" to overflow, the EPA has one of three options:

- eliminate uses in certain markets;
- mitigate risks by mandating certain safety precautions; or
- prevent the manufacturer from adding new uses to the label.

What this means for superintendents is that manufacturers are often faced with the unenviable choice of eliminating certain uses for active ingredients, many of which have migrated from the agricultural market into the turf market. When the EPA evaluates a chemical, it often asks manufacturers to determine what the es-

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How the FQPA Came About

In the summer of 1996, Congress unanimously passed (and President Bill Clinton signed into law) the Food Quality Protection Act (FQPA), which was designed to protect Americans from potential pesticide risks associated with food. From the chemical manufacturers' point-of-view, the original legislation was well-intentioned, says Steve Jedrzejek, senior product manager for LESCO.

"But there was early concern that the EPA would jump to conservative default [risk levels] that wouldn't be realistic," Jedrzejek says. "We wanted to ensure that decisions were being made on sound science and real-world use patterns so [the EPA] wouldn't make changes more restrictive than they had to be."

Chemical companies and the GCSAA lobbied legislators about language changes to allow more realistic implementation timeframes and for more research before changes were made. In the end, it was a mad dash to the final vote.

"There were a lot of last-minute rewrites to the bill, and we only had a few weeks to review the final language," says Tom Beidler, regulatory policy manager for Syngenta. "We didn't have as much time as we would have liked to comment on the future regulatory issues created by the implementation of FQPA. We had to make a decision rapidly whether or not our industry would endorse it, and we did in the end."

Beidler says the law passed unanimously because the Republican-controlled Congress was taking political hits for being "soft" on environmental issues. In then-Speaker of the House Newt Gingrich's "Contract With America," one of its central tenets was to streamline environmental regulations, which Democrats portrayed as a weakening of them. Republicans needed something to inoculate them against the charge – and the FQPA provided the perfect opportunity to do it.

"The FQPA was a good way for everybody to vote for a bill that was seen as strengthening and making the requirements for pesticide registrations more stringent," Beidler adds.

Unfortunately, the EPA did not get off to a roaring start with its FQPA enforcement. Companies found themselves frustrated at the pace of the reregistration and how slow regulators were to evaluate certain chemical classes. Part of the reason for slow implementation and time-consuming nature of the process is the result from how fast Congress passed the law.

It's hard to underestimate the impact that the FQPA passage had on regulators, says Dick Collier, director of regulatory science for Griffin LLC. One day they were focused primarily on agricultural pesticides, and the next day they had to start asking questions about turf uses – questions for which they hadn't had adequate time to prepare. "There was no transition period," Collier says. (For more on the EPA's transition, see sidebar, page 32.)

"The agency had to tackle a difficult task," says Mike Shaw, science policy leader for the environment at Dow AgroSciences. "That's why people grew frustrated early on because the regulators suddenly had more work than ever before, and they hadn't been given the opportunity to prepare. That's how quickly this change came about."

Shaw adds that the process has quickened over the last several years as the EPA cleared some of the more difficult assessments off its agenda.

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sential uses are so it can eliminate nonessential uses, thus lowering the overall risk. Golf industry uses are often a target for elimination because they comprise a smaller market than agriculture.

"Clearly the nonagricultural uses more closely mimic the minor agricultural-use category," says Joe Conti, registration director for Bayer Environmental Science. "When companies go into the EPA with a new or existing active ingredient and are trying to maximize their development and production capabilities, turf uses become more difficult to defend because they have greater exposure and risk, and represent a much smaller market segment."

Superintendents have already seen the EPA change the turf labels on several standby chemicals, including Betasan, Daconil, Dursban and Dylox. Manufacturers voluntarily cancelled the registrations of Turcam and Oftanol because the reregistration hurdles became too large. So de-

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A Q&A With the EPA

Since the EPA is at the center of the FQPA debate, *Golfdom* sought out Jim Jones, the man responsible for handling the pesticide evaluations for the agency. Jones, director of the EPA's Office of Pesticide Programs, answered some of the criticisms of his program and wanted to reassure superintendents that the implementation is on schedule. Here are some of his responses:

Q: The goal was to review 9,700 pesticide tolerances in 10 years. That seems like an ambitious plan, particularly for an agency that has been traditionally understaffed and overworked. How many people are working on these evaluations and what has it been like to actually do them?

Jones: It's been a huge challenge for us. We did get some additional resources after the law passed in 1996, and the program grew somewhat. My office has 825 federal employees. About 350 of them work specifically on pesticide reregistration and tolerance reassessment, and 250 of them work on registration, which is the process for approving new pesticides.

Q: Has the funding stayed constant since 1996? Is there any truth to the rumor that there's a hiring freeze in your office that prevents you from replacing people who leave or retire? How has that affected your manpower allocations?

Jones: On the budget front, the absolute dollars have grown extremely slowly since the FQPA was passed – so slowly, in fact, that the real terms, [the amount of money available] has actually eroded. Although the initial bump from the FQPA has been maintained, it's been eroded because the costs of what we do have increased. We peaked at 870 employees in 1997, and we've had to reduce the number of people working on these issues since then. We don't have a hiring freeze, however. We can replace people who retire.

Q: How many tolerances have you examined so far?

Jones: We've done around 6,200. We've done around 1,000 per year and have been fairly consistent in that. We're proud to say we met the two interim deadlines in 1999 and 2002, and we're on track to meet the final deadline in 2006.

Q: How many products have you had to impose some sort of risk mitigation on?

Jones: We haven't actually attempted to calculate in an aggregate sense how many reviews have resulted in risk mitigation. We've certainly seen hundreds of cases where uses have been significantly modified, whether it's been a deletion of a use or a change in how the product can be used. We've seen several hundred be voluntarily cancelled by manufacturers for reasons other than our evaluation.

Q: When you go to a company and say, "We need to review this chemical because it's in this class of chemicals that we're looking at right now," what has been the chemical companies reaction?

Jones: We've had disagreements [with individual companies] as we go through the process on a number of facets of the review, whether it's a disagreement over how we're calculating risk, how we're interpreting hazard or how we're estimating exposure. Throughout the process, there's constant tension in the system. Overall, as a group, [the companies] have been responsive to the process because we've tried to be as transparent as possible.

Q: Some of the chemical companies have said that the whole regulatory process is slow because the EPA hadn't focused on turfgrass in the past. What was your experience when you first starting reviewing products for the turf and ornamental market?

Jones: Our expertise when FQPA passed was best at evaluating pesticide residues on food and the risks they pose to people. We've had to do a lot of work in trying to evaluate exposures in the turf market. We've invested a lot of money in that area, and now we're pretty comfortable with the analyses we're getting. It has speeded up the process, too.

Q: If superintendents decide they need a chemical that's under review to stay on the market, how important is it for them to be involved?

Jones: It's important that stakeholders, like superintendents, participate in the process. At our Web site, they can follow any chemical's path and find out exactly where it is at any given time. It helps us make better informed decisions, and it helps them make sure their interests are represented.

– Frank H. Andorka Jr., Managing Editor

FILE PHOTO

"I don't think most superintendents are well informed [about the FQPA.]"

JIM NICOL, CGCS
HAZELTINE NATIONAL GC
CHASKA, MINN.

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spite its apparent distance from superintendents' everyday lives, the FQPA has already had an effect on how they do business.

The cost factor

Most chemical companies say it's not the *direct* monetary costs that have the greatest effect on decisions about whether to reregister a product. Far more difficult for companies to stomach are the hidden costs associated with reregistration, including manpower and time issues to file the new EPA paperwork.

"There are consequences to these type of enactments that are difficult to measure, especially when the EPA asks you to take a product off the market," says LESCO's senior product manager Steve Jedrzejek, who experienced an EPA phase out with Dursban. "It's certainly a big distraction from normal business. It's also a drain on time and dollar resources to meet those kinds of demands."

Jedrezejek also worries that the EPA doesn't have enough regulators to speed up the process enough to meet its 2006 deadline.

"From the feedback we've received, the agency is underresourced, overwhelmed and behind schedule," Jedrzejek says. Adds colleague Gloria Sieloff, LESCO's director of regulatory affairs: "When people retire, [the EPA is] not allowed to replace them. It's on a hiring freeze, and a simple label amendment — on a fast-track schedule — takes 90 days." (The EPA says there's no hiring freeze at the agency; see sidebar, page 32.)

The translation: Defending chemicals is difficult and expensive, and sometimes it's easier for companies to restrict a chemical's use than fight for its reregistration. That's where the power of superintendents' voices can come in.

Ways to get involved

A specific case in Florida illustrates how important superintendents' voices can be in helping to mitigate the consequences of FQPA. In March 2002, Bayer Environmental Sciences asked the EPA to cancel all its uses of fenamiphos, the active ingredient in Nemacur, a nematicide used mostly on golf courses in Florida and a few other Southern states. Bayer asked for the cancellation because the company determined it was becoming too expensive to defend to regulators. The final deadline on this elimination was slated for May 31, 2005. With so few effective nematicides on the market, the decision to eliminate Nemacur would have devastated Southern superintendents' attempts to defeat this turf-destroying pest.

So the Florida GCSA entered the fray, mounting a letter-writing campaign to both Bayer and the EPA, and argued passionately that the superintendents needed the chemical's life to be extended, at least until other companies could produce alternatives. The campaign worked. In a final agreement signed in October, the deadline for Nemacur's eventual phase out was extended until 2007 (with

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2002 Performance Measurement Survey Pesticide Results

	Average Number of Applications per Respondent	Average Number of Acres Treated per Application
Fungicides	6.06	4.52
Herbicides	4.17	21.93
Insecticides	2.40	5.58

SOURCE: GCSAA'S PERFORMANCE MEASUREMENT SURVEY

Local Associations Play Key Role in Getting the Message Out

Paul Eckholm, certified superintendent of Heritage Links GC in Savage, Minn., fought a legislative battle as president of the Minnesota GCSA against his state legislature's decision to ban phosphorus on golf courses. He lost, but it gave him a taste for politics. It also gave him some insight into how to get superintendents involved.

"I don't know how to motivate superintendents to get more involved, and believe me, I tried," Eckholm says. "But I do believe that whatever participation we get boils down to communication."

That said, Eckholm has the following tips for chapter presidents on how to educate their members on issues like the FQPA:

Talk, talk and then talk some more. "You have to tell people that they have a horse in the race, and they're more likely to believe it from someone they know," Eckholm says.

Write an article in the newsletter. "The whole point of a newsletter is to provide information about these kinds of issues, so you should use it," he says.

Call your representative. "The people who make the biggest noise will be the ones that are listened to," Eckholm says. "So be loud."

Better yet, schedule a meeting with your representative next time he or she is in the district. "You can e-mail them, fax them and call them all you want, but there's no substitute for face-to-face meetings," Eckholm says. "It's that personal touch that really makes the difference."

– FHA Jr.

"Turf uses become more difficult to defend."

JOE CONTI
BAYER ENVIRONMENTAL SCIENCE

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some uses around water and in certain soil types still slated for elimination in 2005). Bayer officials credited the agreement to the outcry from superintendents.

Even with proven success stories like this, superintendents aren't nearly as vocal as they need to be, says Dick Collier, director of regulatory science for Griffin LLC.

"My experience is that worrying about national legislation is rarely on a superintendents' priority list," Collier says. "When there's a chemical that's in significant danger of being pulled from the market, it would help to hear from superintendents."

Superintendents often don't get involved, but instead assume the GCSAA and local chapters are fighting for them. Joe DiPaola, golf market manager for Syngenta, acknowledges that this attitude reflects a larger societal one.

"It's the classic 20/80 rule: 20 percent of superintendents follow these issues closely and are engaged, and 80 percent are not paying close attention," DiPaola says. "The majority usually waits for the 20 percent to let them know there's something to be concerned about. I don't fault them."

But DiPaola says superintendents need to keep the FQPA on their radar screens and keep in touch with their legislators on these issues because of the risk of losing valuable pesticide tools. "It's easy enough to lose chemicals in this environment, so it's vital for superintendents to pay closer attention to what's going on."

DiPaola's colleague and Syngenta's turf and ornamental technical manager Dave Ross says that when the company asks superintendents to contact the EPA in support of a chemical, most of them are more than willing to do it. "We also hear from superintendents asking us to defend chemicals, and we take those requests seriously."

The GCSAA is doing its part. The organi-

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Status of EPA Reviews For Golf Course Chemicals *(Status as of June 12, 2003)*

The full text of available reregistration eligibility decisions (REDs) and interim REDs (IREDs) – as well as summary fact sheets for several of these pesticides – are available on EPA's pesticide reregistration Web site at *www.epa.gov/pesticides/reregistration/status.htm*. Please explore that site for detailed information on older products that have undergone reregistration review.

Chemical Name (Trade Name) — **Status**

Acephate (Various Trade Names) **IRED** signed September 2001
Explanation: EPA had risk concerns about children, particularly toddlers exposed to lawns treated with acephate. Registrants agreed to drop all formulations used on residential turf. Golf course uses were allowed to continue. To mitigate occupational risks, mitigation measures included reducing maximum golf course turf application rates (of non-granular formulations) to 3 pounds active ingredient per acre (pounds a.i./A) and 4 pounds a.i./A respectively.

Chlorothalonil (Daconil, Touche) **RED** signed September 1998
Explanation: EPA had risk concerns for toddlers in dermal contact with treated turf. To protect children, registrants agreed to prohibit further use of chlorothalonil on home lawns. Other nonresidential turf uses remain registered, with risk-mitigation measures specified in the RED. To protect workers who have to re-enter treated areas, treated sod must be harvested, rolled and palletized mechanically.

Dithiopyr (Dimension) **Newer chemical**
Explanation: Not subject to reregistration. Currently registered for turf uses, including golf courses.

Fipronil (Chipco Choice, Firestar) **Newer chemical**
Explanation: Not subject to reregistration. Currently registered for ornamental and turf uses, including golf courses.

Fosetyl-Al (Aliette) **RED** signed December 1990
Explanation: Because Aliette is a severe eye irritant, the RED required applicators to wear goggles or a face shield while applying the pesticide to lawns and turf.

Imidacloprid (Merit) **Newer chemical**
Explanation: Not subject to reregistration. Currently registered for ornamental turf uses, including golf courses.

Iprodione (Chipco) **RED** signed September 1998
Explanation: To address cancer risk concerns, all residential uses, including residential turf use, were canceled. Applications to golf courses and other nonresidential turf were allowed to continue but were reduced in number (i.e., from "unlimited" to six per year).

Mancozeb (Various Trade Names) **RED** scheduled for 2004

Myclobutanil (Eagle) **Newer chemical**
Explanation: Not subject to reregistration. Currently registered for turf uses including golf courses.

Oxadiazon (Ronstar) **RED** scheduled for 2003

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zation worked hard to help craft the legislation with realistic timelines, and it has continued to work with the EPA to refine the process, according to Carrie Riordan, GCSAA's director of governmental relations.

"They do ask us for input on golf course uses," Riordan says. "Sometimes we make an official comment on an issue, and other times we send it to the chapters to mobilize members at a local level."

The GCSAA also conducts an annual Performance Measurement Survey, which asks specific questions about what pesticides superintendents used, in what quantities and on how many acres of turf. The survey was sent to 4,200 randomly selected members of the organization and compiles information so the GCSAA can adequately respond to EPA inquiries. The survey also provides information about such issues such as acreage maintained, average number of pesticide applications and others.

"We want to establish benchmarks to measure future performance against," Riordan says. "It is also used to measure long-term trends."

The GCSAA is also a partner in the EPA's Pesticide Environmental Stewardship Program, which its Web site (*www.epa.gov/oppbppd1/PESP*) describes as "a voluntary program that forms partnerships with pesticide users to reduce the health and environmental risks associated with pesticide use and implement pollution prevention strategies." A page that details GCSAA's specific role within this program is located at *www.epa.gov/oppbppd1/PESP/member_pages/gcsaa.htm*.

Mike Shaw, science policy leader for the environment at Dow AgroSciences says superintendents can also help companies prepare information to defend products.

"Before anyone screams and yells about a product that's about to be pulled off the market, take a step back and evaluate why it's being questioned in the first place," Shaw says. "Information is the great weapon here, and superintendents have more of it for the turf market than anyone else." ■

Status of EPA Reviews For Golf Course Chemicals *(Status as of June 12, 2003)*

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Pendimethalin (Pendulum, Pre-M) **RED** signed April 1997
Explanation: A possible human carcinogen, pendimethalin posed cancer risks of concern to handlers applying it to turf and to homeowner handlers making applications to residential turf. Risk mitigation measures in the RED included:
- For occupational handlers – Increased the restricted entry interval (REI) from 12 to 24 hours for uses under the scope of the Worker Protection Standard; required use of chemical-resistant gloves; and required water-soluble packaging for wettable powder formulations.

Phenoxy Mixes:
- **2,4-D** **RED** scheduled for 2004
- **2,4-DB** **RED** scheduled for 2004
- **2,4-DP-p** **RED** not anticipated before 2006
- **MCPA** **RED** scheduled for 2004

Quinclorac (Drive 75) **Newer chemical**
Explanation: Not subject to reregistration. Currently registered for ornamental turf uses including lawns.

RH-0345 (Mach 2) **Newer chemical**
Explanation: Not subject to reregistration. Currently registered for ornamental turf uses including golf courses.

Thiophanate methyl (Fungo, 3336) **RED** signed March 2003
Explanation: EPA had drinking water concerns associated with thiophanate-methyl use on turf in general, including golf course turf. Use on commercial sod was canceled. Other turf rates were reduced (prior to RED signature) as follows:
- Tees/greens: 8.16 pounds a.i./A/application. 21.8 pounds ai/A/year. 14-day retreatment interval.
- Fairways: 5.45 pounds a.i./A/year, except in Florida, which has a maximum annual rate of 2.72 pounds a.i./A on fairways only during overseeding.

Triadimefon (Bayleton) Unscheduled **RED**
Explanation: Will undergo RED process. No target date identified.

Trichlorfon (Dylox) **RED** signed Sept. 1995; TRED Sept. 2001
Explanation: An organophosphate insecticide, trichlorfon posed risks of concern to applicators making broadcast treatments to golf course fairways and pond applicators, and posed post-application risks to workers following foliar treatments to ornamentals. To mitigate handler and worker risks, the RED prohibited broadcast treatment to golf course fairways (spot treatment to fairways is permitted); required a seven-day application interval to turf; and limited applications to no more than three per calendar year.

SOURCES: EPA; TRADE NAMES FROM RESPONSIBLE INDUSTRY FOR A SOUND ENVIRONMENT (RISE)