The Food Quality Protection Act: How it affects turfgrass pest management

By Dr. David Gardner

Increasing amounts of literature demonstrate the ability of turfgrass to retain and degrade pesticides more rapidly than what is observed in production agriculture. While this is important to the industry in the context of defending responsible pesticide usage, it does not automatically ensure that pesticides will continue to be registered for use in turfgrass.

The primary determinant of what pesticide choices will be available in coming years is the Food Quality Protection Act.

The Food Quality Protection Act (FQPA), passed in 1996, was supported by the federal government, as well as many environmental, industrial, agricultural and public health groups. As the guidelines of the act are mandated, they are producing sweeping, and sometimes dramatic, changes in the choice of pesticides available and concomitantly, in pest management strategies.

The FQPA mandates that all pesticide tolerances in the U.S. (currently around 9,700) be reviewed by the year 2006. The following is a brief summary of FQPA, and the reader is referred to state extension literature, such as that produced by Penn State Cooperative Extension, for a more thorough treatment of the subject.

FQPA under the microscope

There are many technical aspects of the Food Quality Protection Act.

Briefly, a pesticide tolerance is a limit set by the EPA on the amount of residue that can remain on a treated food. The act considers the application frequency and amount of the pesticide, the pesticides toxicity, and how much remains in and on the edible crop. A wide margin of safety is then required to ensure that the residue levels are many times lower than what could cause adverse effects.

What separates FQPA from previous regulation is that this new "reasonable certainty of no harm" standard also considers sources of exposure other than food crop residue such as home and garden usage, pet care, and residues in drinking water. A tenfold safety factor to account for increased sensitivity of children to pesticide residues is also mandated in addition to the 100x safety factor that was already in place.

Another feature of the FQPA is that pesticides with similar modes of action are grouped together when assessing risk. In other words, when human exposure to a pesticide is considered, exposure to all other pesticides with similar mechanisms is also considered.

FQPA mandates that all pesticide tolerances in the U.S. (currently around 9,700) be reviewed by the year 2006.

All pesticides like cyproconazole have a primary registrant, which is usually the company that developed the chemical. That company is responsible for maintaining the pesticide's registration with the EPA. If it determined that the risk of exposure to a pesticide must be reduced, the primary registrant has several options. It can either voluntarily remove the pesticide from the market, or it can eliminate some of the pesticides uses.

For example, chlorpyrifos was registered for use in food production, nursery production, lawn and landscape use, and also for many household uses including termite control. Under the guidelines established by the Food Quality Protection Act, it was determined that human exposure to this pesticide was too high, and its primary registrant, Dow

AgroSciences LLC choose to cancel most of its uses. Under the agreement with the EPA, most in-and-around-the-home uses of chlorpyrifos were cancelled, including use as a full-barrier termiticide. The product will however, remain available for use on golf courses, ornamental nurseries, and all crops except tomatoes.

In the case of cyproconazole, it was determined that human exposure was too high. The primary registrant, in turn, chose to voluntarily cancel some of its uses, including its use in turfgrass management, in order to reduce human exposure to this pesticide.

While the act encourages minor use pesticide registration, which is defined as registration on crops planted on less than 300,000 acres nationally, it does not set any guidelines as to what crops or uses the product can or must remain registered for if exposure is deemed too high under the new standards. Changes in product registration are done between the EPA and the primary registrant on a case-by-case basis.

Unfortunately, and ironically given all of the debate over turfgrass pesticide usage, the turfgrass management market is not as lucrative (e.g. high volume) as many other agricultural commodities. Therefore, even if the product is not cancelled outright, the primary registrant may eliminate usage in turfgrass in order to reduce human exposure, while still maintaining registration in the more lucrative crop market.

In the case of cyproconazole, the product was sold to Bayer as a part of the Novartis-AstraZeneca merger and is now marketed by that company for, among other thing, the control of coffee rust in coffee producing nations..

The goal of the Food Quality Protection Act is sound, and one with which no one should argue. Unfortunately, there are some aspects of the language of the Act that have and will continue to result in reductions in the number of pesticides available for use in turfgrass management. New products with different chemistries are being introduced. But sound management practices, including judicious and proper usage of pesticides, will continue to be important aspects of a successful turfgrass maintenance program.

Dave Gardner is an assistant professor of turfgrass management at The Ohio State University. He received a B.S. degree in horticulture from Iowa State University in 1993. After graduation, he was employed as a pesticide applicator at Moore Landscapes in Glenview, Illinois. Dave resumed his education in 1995 and received a M.S. degree from Iowa State in 1996 and a Ph.D. degree in 2000 from the University of Illinois.