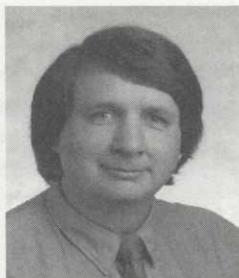


The ultimatum:

Looking ahead

by Christopher Sann

The goal of the Clinton administration's Reduced Pesticide Initiative (R.P.I.) — to reduce total pesticide usage 50% by the year 2000 through the adoption of integrated pest management in 75% of production agriculture — is more than this administration's response to the Supreme Court's upholding the "no tolerance" wording of the Delaney clause. This initiative represents the culmination of public, environmental, and scientific concerns as well as government regulatory responses to the issue of pesticide safety.



These issues have been debated since the very establishment of the federal Environmental Protection Agency (E.P.A.) in 1970 and clearly this initiative does not represent new topics for discussion, but rather is presented as an ultimatum to the agriculture community.

Change in E.P.A. tactics

Until now, most of the efforts of the E.P.A. have been focused around the edges of pesticide usage and have been primarily pointed at reducing accidental pesticide exposures and spills, removing dangerous materials from the marketplace, establishing pesticide exposure and tolerance thresholds, and raising the level of professionalism of the pesticide application industry. This new R.P.I. represents an historic departure from these policies and exemplifies the E.P.A.'s first attempt to dramatically reduce total pesticide usage. Under R.P.I., the E.P.A. will have the power to phase down the use of a pesticide and the power to remove a dangerous pesticide from the marketplace. This means that the E.P.A. will henceforth be able to mandate a reduction in use of a particular pesticide based on the total quantity of use of that pesticide rather than the current cost/benefit standard. Although the E.P.A. has publicly stated that this new policy will apply only to production agriculture, previous experience with such assurances as well as private conversations with state regulatory officials indicate that these new standards will eventually apply to all segments of the pesticide application industry. This enhanced regulatory power will revolutionize all aspects of the pesticide application business, whether in agriculture, horticulture, or turfgrass management.

Tough start for integrated pest management

Establishing widespread acceptance of integrated pest management techniques in the turfgrass management industry, with integrated pest management's emphasis on reduced pesticide usage through adherence to strict action thresholds and precise timing of pesticide applications based on pest life-cycles, will be considerably more complicated than just swapping one management strategy for another. By comparison, unlike the slow incremental imposition of pesticide regulations that has marked the last 20 years of regulation of turf management activities by the E.P.A., this new initiative will be a quantum leap. Beyond the natural resistance that always develops in trying something new, implementing integrated pest management will necessitate major changes in approach and attitude by agriculture, horticulture, and turfgrass managers. Integrated pest management techniques are pest and site specific.

More regimented approach needed

The use of integrated pest management requires a much more regimented approach to the process of gathering facts than is currently practiced. Integrated pest management techniques establish threshold standards for implementation of pesticide-based control actions. They recognize a broader set of possible solutions to pest problems based on pest life cycles, and require much higher levels of pest specific knowledge to successfully implement than the ill-defined and inconstant set of standards that represent the current state-of-the-art of data gathering in turfgrass management. For example, the blanket, preventive pesticide applications based on the calendar day of the year, which is often today's standard operating procedure, will be no longer be possible. In the future a pesticide application will have to be qualified through the accurate identification of pests, quantified to see if the pest population meets action thresholds, and justified by an analysis of the current life cycle stage of the pest before the chemical control application will be made. In the case of the newly proposed "prescription status pesticide" procedures for known ground water contaminating chemicals, the standards will require that after the application has been justified by the use of integrated pest management techniques, prior written approval must be obtained before that prescription pesticide can be applied.

Managers will have fewer tools

In addition to fostering integrated pest management implementation, the new initiative will increase the level of safety testing required of manufacturers to obtain new use-registrations or to maintain an existing pesticides' use-registration. In the next three years, implementation of these higher safety standards will lead to a substantially reduced number of chemical tools on which managers will be able to count. Fully two-thirds of the more than 600 pesticides currently registered for use have not been fully tested for human and environmental safety. Many narrow-use products may be lost because manufacturers will choose to stop making them rather than meet the new safety standards. And some broad-use pesticides may make label modifications that will restrict their use in turf management.

For what ever reason, three years from now, there will be fewer chemical pesticides available for use by turfgrass managers. But lower turfgrass quality won't fly. The public's heightened chemical paranoia has led to a substantial increase in questioning of turf and agricultural managers about the use of their chemical tools. Yet, at the same time, demonstrating its typical schizophrenia, the public has indicated that with the expected

reduction in pesticide usage it will not tolerate any reduction in quality.

Food shoppers want fewer pesticides to be used to produce their food, but they are unwilling to accept some of the inevitable reduction in quality that will come with this reduction in pesticide usage. Golf course superintendents are under increasing pressure from golfers and greens committees to reduce pesticide usage, yet the same golfers have let superintendents know that they expect current course playability to be maintained.

How to keep up quality with fewer tools?

Turfgrass managers are stuck. They know that any substantial reduction in total pesticide use under the current management strategies will lead to a substantial reduction in turfgrass quality. Tinkering around with current strategies might be able to deliver pesticide use reductions of from 10% to 15%, but even that modest level of reduction would require a substantial effort.

Tinkering with decreased herbicide and insecticide usage might produce some significant pesticide use reductions without a substantial impact on turf quality, but restricting chemical fungus control applications, for example, would prove problematic as turfgrass quality would vary dramatically, depending on the disease to be controlled and current weather conditions. Clearly, modifying current turfgrass management techniques will not be able to reach the initiative's stated goals of 50% reduction in total pesticide usage by the year 2000. What is needed is a different approach.

Problem solver: integrated pest management

The pressure on the pesticide applications industry to maintain both food quality and turfgrass aesthetic standards while reducing chemical inputs will continue to increase. New biologically based pesticides will be able to replace some of the chemical pesticides. But more than anything, this pressure will put an increasing premium on the accurate and timely use of those chemical tools that remain.

When turfgrass managers use a chemical pesticide, they must be sure of the pest with which they are dealing, have a good idea about the size of the pest population, and the present life cycle stage of the pest. The full implementation of turfgrass integrated pest management techniques offer the only realistic format to accomplish this increasingly difficult juggling act. Whether or not we like it, turfgrass managers in the year 2000 and beyond will be using integrated pest management. ■

Coming attractions

December Issue

The science of compost

by *Dr. Peter Landschoot*

and

Mr. Andrew McNitt

both of Penn State University