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## **Golf Digest: How Green Is Golf? Beyond Pesticides' response to EPA criticism**

*In May 2008 Golf Digest published an article, "[How Green is Golf?](#)," which asks the hard questions about the environmental impact of golf in a series of in-depth interviews. The following is Beyond Pesticides' response to EPA's criticism of executive director Jay Feldman's [interview](#).*

EPA's "[rebuttal](#)" by Debra Edwards, Ph.D., director of the Office of Pesticide Programs, does not dispute most of the specifics outlined in the Feldman interview. Instead, she uses her space on the Golf Digest website to offer a boilerplate characterization of the pesticide registration program. "[E]PA bases its decisions to register pesticides for use in the United States on scientific data showing that the pesticides meet applicable safety standards to protect human health and the environment when used as directed on product labeling," Dr. Edwards says. She refers to "rigorous risk assessment" and "uncertainty factors" without addressing the deficiency of false assumptions, such as children not playing golf, and lack of attention to synergistic effects and mixtures. Without admitting that the agency is years behind a statutory schedule to fully test pesticides for endocrine disruption, she says "[W]e have now developed and will begin requiring new studies to help us understand whether endocrine disruption is the mechanism causing the effects," but does not say when and how long it will take. In her rebuttal, Dr. Edwards prefers to focus on the number of completed reevaluations of existing pesticide food tolerances (9,721 over the past 12 years) rather than the quality or documented deficiencies in those reviews. Dr. Edwards cites the agency's support of integrated pest management (with undefined toxic pesticide use) and reduced risk pesticides, without ever questioning the real need for toxic chemicals or advancing defined organic management systems not reliant on toxic pesticides.

On children and golf course exposure, Dr. Edwards appears to dodge the agency's failure to fully address young children's exposure to chlorpyrifos on golf courses, by ignoring the original 2000 decision that dismissed all children's exposure and the more recent 2006 analysis that ignores children six and under. Dr. Edwards writes, "[W]e estimated the potential exposure and risks received not only by adults but also by both children aged 7-12 and teenagers in the chlorpyrifos risk assessment. The assessment of the use of chlorpyrifos on golf courses shows that this use met our rigorous safety standard." However, first, as noted in EPA's "Provisions of the June 2000 Memorandum of Agreement," the agency exempted golf courses from the chlorpyrifos phase out with its decision: "Outdoor areas in which children will not be exposed [to chlorpyrifos], including only: golf course turf. . . ." Then, in its Memorandum entitled Finalization of Interim Reregistration Eligibility Decision (IREDs) and Interim Tolerance Reassessment and Risk Management Decision (TREDs) for the Organophosphate Pesticides over six years later on July 31, 2006 (authored by Dr. Edwards), EPA narrowed its definition of children, deciding it was not necessary to evaluate children six and under. (p.41) Junior golf can certainly begin at age 5, or before, exposing young children to a hazard that EPA assumes does not need to be evaluated. Children are especially vulnerable to chlorpyrifos and chemical exposure and suffer their greatest risk of adverse effect during this period of life.

Some say that the debate with EPA is becoming increasingly irrelevant as the market moves ahead to address key issues of environmental health. This has happened in the food and agriculture sector where organic food has grown to a \$20 billion industry. The majority of non-golfers (66%), according to a 2007 Golf Digest survey, understands that pesticides used on golf courses can be a health hazard. The number of golfers who understand this (40%) has doubled since Golf Digest conducted a similar survey in 1994. A majority, or 64%, of golfers is willing to “play golf under less manicured conditions to minimize the use of pesticides on the course.” An even greater majority, 85%, is willing to “sacrifice some level of golf course landscape “perfection” to save water/prevent groundwater pollution.” The growing number of concerned golfers and the communities surrounding golf courses are having increasing influence over golf course practices. Jeff Carlson, golf course superintendent at the Vineyard Golf Club on Martha’s Vineyard, MA, interviewed in the article, manages an organic course with a focus on cultural practices and describes a number of approaches that he uses to manage insects, weeds and fungus, as well as the importance of support from the club. Mr. Carlson says that it is important that he is “. . .working with our members and explaining this idea of great playability versus visual perfection. We take the focus away from having every piece of fairway and rough perfectly green. The members have to be on board, or the superintendent wouldn’t last too long.” With a background in using chemical-intensive practices, Mr. Carlson says, “I am just so surprised that so much of our golf course is unaffected by not using pesticides. To see a course without any at all is something I’m really proud of.”