

Animal Waste and Clean Water

I read with great interest Schmidt's article on hog feces that was widely spread by Hurricane Floyd flooding in North Carolina (1). Should not all fecal matter, whether human, hog, poultry, or cattle, be held to the same standard of disposal? Why should municipalities be held to a higher level of waste purification for human fecal matter?

Sheldon B. Cohen

Psychiatrist (private practice)

Atlanta, Georgia

E-mail: shelbradco@earthlink.net

REFERENCES AND NOTES

- Schmidt CW. Lessons from the flood: will Floyd change livestock farming? *Environ Health Perspect* 108:A74-A77 (2000).

Further Challenges

The editorial "The Right to Know Is for Everyone" by Hook and Lucier (1) emphasized a number of achievements by *Environmental Health Perspectives* as well as future challenges for the journal, which I found to be very notable. Nevertheless, there are two points that I consider somewhat troubling.

First, I take some exception to the well-intentioned but overextended interpretation of the eventual impact of Rachel Carson's monumental book *Silent Spring* (2). Hook and Lucier (1) stated that

The devastating effects of synthetic chemicals such as herbicides and pesticides was an environmental disaster caught in time by the publication of Rachel Carson's book *Silent Spring*.

Unfortunately, Carson's seminal and significant book (2) did not curb the environmental disaster of pesticides. Rather, I believe, it caused an awareness of the terrible dangers associated with the wide use of pesticides and triggered chemical companies to market their products in a more clandestine manner. Thus, it may even be possible that Carson's 1962 breakthrough thesis has spawned greater pesticide use, largely because of the continuing strength of the chemical industries.

The production and application of pesticides has greatly increased, and some researchers report that there has actually been a 33-fold increase since 1942 (3,4). Often when there is a decrease in use, it is because of a reduction in farmed land, increased pesticide cost, introduction of more potent chemicals, or adoption of integrated pest management (5).

Furthermore, these pesticides are harmful to humans. Pesticides have been shown to cause a myriad of toxic effects including birth defects, sterility, cancer, and damage to the nervous system (6). Carcinogenic pesticides have increased 127% between 1991 and 1998 (7). In California, sulfur is a widely used

fungicide and is responsible for the largest number of reported farmworker poisonings (8). Also, exposure to various pesticides has been associated with a range of adverse health effects such as non-Hodgkin lymphoma and prostate cancer (9).

The nation's poison control centers recorded over 150,000 incidents of human exposure to pesticides in 1992-1993 (10). Between 1993 and 1996 the American Association of Poison Control Centers (Washington, DC) recorded 2,300 pesticide-related exposures involving individuals at schools (11). Herbicides have been regularly detected in drinking water in every part of the United States. Pesticide effects are often delayed and impairments may manifest in children of exposed individuals long after the initial exposure (9). This is even more disturbing because a rapidly expanding body of research shows that pesticides decrease mental ability and increase aggressiveness (3). Children are an especially vulnerable population because pound for pound they eat, drink, and breathe more pesticides than adults, and this puts them at higher risk for harm.

Although *Silent Spring* (2) was published in 1962 and described major ecologic damage caused by bioaccumulative pesticides, currently only 17% of the hundreds of pesticides that were registered before November 1984 conform to updated standards of testing (12). In 1990, the U.S. International Trade Association (Washington, DC) reported that over 1.26 billion pounds of pesticides and related products are produced annually in the United States (13). Similarly, in 1990, 52 million pounds of banned, never-registered, or restricted-use pesticides were exported from the United States; in 1996, this rate increased to 96 million pounds (9).

In California, total reported pesticide use increased by an average of 7.2 million pounds per year of active ingredients between 1991 and 1998 (7). Clearly, these numbers and adverse health effects illustrate that an environmental disaster has not been averted, but is taking place now.

The second point I would like to address involves free subscriptions to *EHP* for developing countries. Although I believe this is beneficial, the authors did not mention how many developing countries receive free subscriptions or how *EHP* determines who receives these subscriptions.

It seems appropriate, moreover, that *EHP* provide subscriptions free of charge to U.S. schools and public libraries that cannot afford this publication. Considering that the NIEHS is a forerunner in health disparity issues, as well as the main contributor to *EHP*, it seems suitable to offer *EHP* to any underprivileged school or library that would

like this publication. The NIEHS spent over \$20 million on environmental justice in fiscal year 1999 and has at its core a purpose of helping socioeconomically disadvantaged populations. As stated in the NIEHS Strategic Plan 2000 (14), a goal of the NIEHS is to

Enhance the understanding of environmental health sciences and its importance to human health among scientists, policy makers, and the American public.

Not only is it vital to inform the public of environmental health issues but it is also vital to improve the ability of affected communities to direct change and to increase the pool of minority scientists with both the understanding and credibility needed to design and implement studies that address these important issues. NIEHS objectives can be more adequately and globally realized by providing free *EHP* subscriptions to underserved communities because it is such an excellent source of environmental health information.

I challenge the editors of *EHP* to continue their evaluation of how best to provide critical and timely environmental health topics, and I invite them to consider providing this important information to the populations that need it most.

Bill Jirles

NIEHS

Research Triangle Park, North Carolina

E-mail: jirles@niehs.nih.gov

REFERENCES AND NOTES

- Hook G, Lucier G. The right to know is for everyone. *Environ Health Perspect* 108:A160-A161 (2000).
- Carson R. *Silent Spring*. Boston, MA:Houghton Mifflin, 1962.
- Study urged of pesticide, youth violence link. Available: <http://www.cnn.com/NATURE/9908/09/pesticides.enn/> [cited 9 August 1999].
- Hatherill R. Are today's teens more toxic? Available: http://www.vegsources.com/articles/toxic_teens.htm [cited 8 May 2000].
- Zilberman D, Schmitz A, Casterline G, Lichtenberg E, Siebert J. The economics of pesticide use and regulation. *Science* 253:518-522 (1991).
- Huff JE, Haseman JK. Exposure to certain pesticides may pose real carcinogenic risk. *Chem Eng News* 69:33-37 (1991).
- Kegley S, Stephan O, Neumeister L. Hooked on Poison: Pesticide Use in California, 1991-1998. Pesticide Action Network. Available: <http://www.panna.org/resources/documents/hookedAvail.dv.html> [cited 10 May 2000].
- Reeves M, Shafer K, Hallward K, Datten A. Fields of Poison: California Farmworkers and Pesticides. Available: <http://www.igc.org/panna/resources/documents/fieldsAvail.dv.html> [cited 10 May 2000].
- Short P, Colborn T. Pesticide use in the U.S. and policy implications: a focus on herbicides. *Toxicol Ind Health* 15(1-2):240-275 (1999).
- GAO. Pesticides: EPA's Efforts to Collect and Take Action on Exposure Incident Data. Report to Senator Harry M. Reid, U.S. Senate. GAO/RCED-95-163. Washington, DC:U.S. General Accounting Office, 1995.
- GAO. Pesticides: Use, Effects, and Alternatives to Pesticides in Schools. Report to Ranking Minority Member, Committee on Governmental Affairs, U.S. Senate. GAO/RCED-00-17. Washington, DC:U.S. General Accounting Office, 1999.
- Toxic Chemicals in the Environment: A Far-Ranging Problem. *Toxics Watch* 1995. New York:INFORM, Inc., 1994.
- Huff J. Personal communication.
- NIEHS Strategic Plan 2000. Available: <http://www.niehs.nih.gov/external/plan2000/goals.htm> [cited 4 May 2000].