

UC SANTA BARBARA

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## **RESEARCHER BLASTS EPA FOR NOT DOING ENOUGH; LINKS YOUTH VIOLENCE TO PESTICIDES AND HEAVY METALS**

University of California, Santa Barbara researcher and faculty member J. Robert Hatherill today blasted the Environmental Protection Agency for not doing more to protect children from environmental toxins, and tied environmental degradation to the increase in youth violence.

While Monday's EPA announcement of regulation of two pesticides -- the organophosphates methyl parathion and azinphos -- is a step in the right direction, it is only a baby step, according to Hatherill, an environmental toxicologist.

Hatherill asserts the linkage in a recent Chicago Tribune\* opinion editorial,

"Pollution causes some people to commit violent crimes: In our myopia, we've neglected this obvious possibility. Yet a rapidly expanding body of research shows that heavy metals such as lead and pesticides decrease mental ability and increase aggressiveness. Human behavior is so easily influenced by toxic chemicals that in the 1980s a new scientific discipline called behavioral toxicology came into existence."

Agricultural pollution has worsened in the 1990s, according to Hatherill. He explains, "When Congress banned the dumping of sludge into the oceans in 1992, the result was that sludge was plowed into croplands. The Columbine High School killers were 10 and 11 years old when this decision was made, and since that time we have routinely dumped heavy metals such as lead and cadmium, household chemicals, industrial chemicals, pesticides and disease-causing microbes into agricultural soil."

"The dumping of sludge is just one example of the continuing degradation of our food supply," continues Hatherill in the Chicago Tribune article. "The use of pesticides has increased 33-fold since 1942. Recent studies show that trace levels of multiple pesticides cause increased aggression. Trace pesticide mixtures have induced abnormal thyroid hormone levels, which are associated with irritability, aggression and multiple chemical sensitivity."

Children bear the brunt of this overload. "Because they are growing rapidly and they are smaller," he writes, "they absorb 40 to 50 percent more toxic lead than adults. Babies fed infant formula rather than breast milk absorb more heavy metals such as manganese. And calcium deficiency in childhood also increases uptake of lead and manganese."

He notes that the article "Bone Lead Levels and Delinquent Behavior, from the February 1996 issue of the Journal of the American Medical Association, "outlines the association between heavy metals in the body and behavior problems such as attention deficit disorder, aggression, and delinquency."

He warns, "Added to sludge and pesticides is the underlying problem of the transformation of our eating habits and food supply. In recent years, developments in food technology in the U.S. and other developed countries have led to sweeping changes in nutritional composition and amount of fiber in the diet."

Hatherill, author of the recent book, *Eat to Beat Cancer*, explains in the Chicago Tribune article that, "Growing and processing food has become a gigantic mechanized industry and the explosive increase in processing has stripped many essential nutrients and fiber from our food. A diet filled with low-fiber convenience foods leads to a greater uptake of pollutants such as mercury and PCB. Although PCB was banned in the 1970s, it still persists in the environment."

He goes on to say, "The New England Journal of Medicine reported in September 1996 that children exposed to low levels of PCBs in the womb grow up with poor

reading comprehension, low IQs and memory problems."

Again, raising the link between neurotoxicity and youth violence, he concludes, "From 1984 to 1994, the number of youths under 18 who were arrested for murder tripled, according to the Department of Justice. It is time to look beyond the sociological roots of this trend to consider the profound changes in our food and water supply as a possible cause of violent behavior. We need to rethink our dependence on processed foods and the release of toxic materials into our agricultural environment."

He adds that "in addition to checking our children for guns and explosives we should be checking their blood for elevated levels of toxic chemicals. In particular we should check out those recent perpetrators of school violence -- whether they be dead or alive -- to find out if there was a biological root to their behavior."

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