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Keep Your Sludge Out of My Sandwich!

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In 1978, a team of scientists from Dow Chemical found that rats exposed to very low levels of dioxin developed liver cancer. This research, combined with earlier tests that demonstrated birth defects in mice at extremely low exposure levels, led to dioxin's characterization as "the most toxic synthetic chemical known to man."

For seven years EPA put off developing rules for dioxin in sludge -- until now. Maybe they hoped that in the intervening years, we would forget that dioxin was present in Agent Orange, the herbicide that contaminated thousands of Vietnamese and American soldiers in Vietnam. Maybe EPA thought we'd forget that dioxin contamination led to the evacuation of Times Beach, Missouri; Love Canal, New York; and most recently, an African-American neighborhood in Pensacola, Florida.

In December 1999, EPA issued draft standards that would allow land application of sewage sludge (which they call "biosolids") that contains up to 300 parts per trillion of dioxin. In 1993, EPA established "acceptable" levels of nine toxic heavy metals in sewage sludge that is to be applied to parks, forest land and farm fields or sold to consumers for garden use.

However, we have not forgotten, and indeed, we have learned dioxin is even more toxic than we thought. In fact, EPA has known for many years dioxin is a very dangerous compound. The Agency's own draft reassessment of the health effects of dioxin, released more than four years ago, listed significant concerns about the human health impacts of dioxin exposure. According to research compiled by the Center for Health, Environment and Justice, dioxin has been linked to a number of health problems in humans and animals. Those health problems including cancers of the lung, stomach, liver and soft tissue; reduced sperm count, infertility, endometriosis, birth defects, immune system suppression, altered glucose response, altered insulin levels, impaired neurological development and learning disabilities.

Furthermore, people are already exposed to dangerous amounts of dioxin through food. EPA's own Risk-Specific Dose for dioxin is 0.01 picograms/kilogram of body weight. Yet testing has shown the average daily intake of dioxin through food is 70-210 picograms/ kilogram of dioxin for a 150-pound adult! Nursing infants ingest about 50 times the adult daily dose. This means people are exposed to dioxin at or near levels that have been shown to cause adverse effects in laboratory animals. For this reason, allowing additional dioxin exposure from sewage sludge is unconscionable!

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In its draft rule, EPA states they "believe [emphasis added] that the level of dioxins in sewage sludge, both nationally and from specific sources, is relatively constant over time and may [emphasis added] possibly be decreasing." This level of uncertainty is very dangerous, given the extreme toxicity of dioxin. The Cornell Waste Management Institute estimates that 90 percent of the dioxins in wastewater entering a sewage treatment plant will be retained in the sludge. Given that at least 36 percent -- or about two million dry tons -- of America's sewage sludge was applied to agricultural land as of 1995, there is a significant opportunity for additional dioxin contamination.

It is also critical to note that unlike pathogens in sludge, which are supposed to be dramatically reduced by treatment methods prior to land application, dioxin in sewage sludge is not reduced by those treatment technologies. (Incidentally, the same is true for the heavy metals). Thus, dioxin in the soil will build up with additional applications of sludge.

"But I don't eat dirt. How would I be exposed to dioxin in sewage sludge?" you ask. Dioxin doesn't break down easily in the environment. It will break down under intense prolonged sunlight, but land-applied sewage sludge is supposed to be tilled into the soil. Cows and other grazing animals do eat some dirt as they graze, and they also ingest additional dioxin that has fallen to the ground from air emissions. Because dioxin is stored in fat, it builds up in the animals, and thus, in the meat and dairy products we eat.

The global solution to dioxin contamination is to eliminate all sources of dioxin contamination. The obvious near-term solution is to tell EPA that no level of dioxin is acceptable in sewage sludge that is land-applied or incinerated.

Food producers, particularly family farmers, are in a very vulnerable position right now, with prices for crops dropping while input costs rise. EPA should not put them in an even more precarious position by promulgating a rule that will poison their soil and the food they produce. The only way to protect our food and our health from additional dioxin impacts is to act now and tell EPA what they can do with their sludge! Time is running out -- they are only accepting comments until March 23!