MOTHER EARTH NEWS

Biosolids: More Harm than Good, Part 2

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By Lidia Epp

Cattle grazing on freshly applied biosolids in Florida.

This is Part 2 (read Part 1 here) of an interview with David Lewis, Ph.D., formerly a senior-level research microbiologist at EPA-ORD. He currently serves as director of research for the Focus for Health Foundation. Dr. Lewis was terminated by EPA for publishing two articles in *Nature* that raised concerns over the 503 sludge rule and is one of the most prominent scientific voices in the growing opposition to biosolids land application. Dr. Lewis' publications are frequently cited as an example of solid, unbiased scientific evidence of the danger posed by this

practice. Dr. Lewis kindly agreed to an interview for MOTHER EARTH NEWS addressing the issue of agricultural use of sewage and industrial sludge, aka biosolids.

Lidia: Dr. Lewis, thank you again for helping to address this issue. I would like to follow up on our previous conversation by asking about your research, and how EPA reacted when you published articles in Nature that raised concerns over the 503 sludge rule. First, what role did citizens impacted by land application of treated sewage sludges play in your research?

Dr Lewis: We studied 48 individuals at ten sludge application sites in the US and Canada, plus five additional cases where an outbreak of staphylococcal infections occurred. We reviewed county land application records and the residents' medical records. We also collected environmental samples, and used an air dispersion model to potentially rule out exposure to sludge as the cause of adverse effects.

Lidia: Can you give us an example of what you discovered?

Dr Lewis: In a neighborhood in New Hampshire, for example, my coworkers and I found that most, but not all, residents reported burning eyes, burning throat, and severe difficulty breathing. Copious amounts of thick mucus collected in their airways whenever they inhaled dusts blowing from piles of biosolids. The proportions of residents reporting symptoms steadily increased with increasing amounts of time that they were exposed to biosolids; and the symptoms steadily decreased as they lived farther away from the biosolids.

One young man stopped breathing and died as he slept under an open window where biosolids dusts were blowing in and collecting on his bedsheets. We cultured bacteria from frozen samples of biosolids collected at the time of his death, and ran DNA analyses. We found an unusual pathogen was proliferating in the biosolids, which is known to cause sudden respiratory failure and death when inhaled with dust particles.

Lidia: How did EPA react?

Dr Lewis: The head of EPA's Office of Wastewater Management in Washington, DC, and one of his subordinates, met on two occasions with executives of Synagro Corporation. Synagro is the leading U.S. company in the biosolids business. The EPA subordinate requested Synagro's help in discrediting our research. Synagro emailed him and his boss a white paper containing false allegations of research misconduct against me.

The EPA subordinate and Synagro then distributed the white paper, and Synagro and others published it on the Internet. I filed a whistleblower lawsuit. Then, as part of a settlement agreement, I agreed to transfer to the University of Georgia and await termination. I felt that I had no choice. My career was dead-ended.

EPA discharged me in 2003, and later cleared me of Synagro's allegations. My local EPA director issued a statement, saying: "Dr. Lewis' involuntary termination

over his research articles was not supported by the local lab management in Athens. He was an excellent researcher and an asset to EPA science."

UGA administrators also kicked me out. The Provost told my department head: "We're dependent on this money…grant and contract money… money either from possible future EPA grants or [from] connections there might be between the waste-disposal community [and] members of faculty at the university."

Lidia: Since you left EPA, what are you doing to stop biosolids?
Dr Lewis: Currently, I chair the science advisory committee for the Autism Policy Reform Coalition (APRC), which is a coalition of advocacy groups. APRC helped raise $128 million in congressional appropriations for research on environmental risk factors that may play a role in the initiation or promotion of autism spectrum disorder. Studies, for example, link autism to pesticide residues on farms. But none of them consider biosolids, which contain far higher concentrations of all of the chemical groups linked to autism.

I'm also co-director of the TOXYSolutions Environmental Justice Project, which is gearing up to fund research on adverse effects of biosolids on human health and the environment. Part of this effort is aimed at developing ways to detoxify sewage sludge at the source. And, we're working with economically and educationally disadvantaged communities impacted by biosolids to test children and adults for exposure to heavy metals and toxic organic chemicals.

Last, but not least, I'm the Research Director for the Focus for Health Foundation, which posts information about public health and environmental risks associated with biosolids.

Lidia: Finally, how can residents that are opposed to sludge get involved, what should they do to make a difference?
Dr Lewis: Two things: educate themselves, and get the word out. Congress passed Clean Air and Clean Water Acts, but no Clean Soil Act. EPA, which gets its regulatory authority from those Acts, allows municipalities and industrial polluters to discharge pesticides, pharmaceuticals, PCBs and every other toxic chemical in the world into sewers. Then, under EPA's 503 sludge rule, sewage treatment plants can just add lime and spread every chemical in the world known to cause cancer, birth defects, neurological disorders and a host of other adverse health effects on farms, forests, school playgrounds, golf courses, and any other available tract of land in "biosolids."

The only thing EPA regulates in sewage sludge is nine metals, nitrogen and phosphorus. Everything else, which EPA strictly regulates in air and water because it's known to cause illness and death, is spread all around us on land in unlimited amounts!

No wonder our children are developing autism at steadily increasing rates; teenagers are starting to get colon cancer; and more elderly people are getting Alzheimer's disease and other neurological disorders. We must all spread the

word, and tell our cities to stop spreading toxic biosolids. Hazardous chemical wastes must be contained and destroyed—not spread all around us. We have the technology, we just need to use it.

This concludes my interview with Dr David Lewis. I hope that readers found this information useful and will consider sharing it with others who are affected by the agricultural use of biosolids. I intend to focus on various aspects of this issue in my future blogs, the feedback with suggestions on a particular areas than should be covered will be most welcome. I will continue to seek contact with scientists, professionals, volunteers and activists asking them to help all of us to better understand the risks and dangers associated with this dangerous practice.

Photo courtesy of Craig Monk

Lidia Epp *is active with a local group of residents concerned about the agricultural application of biosolids, a dangerous practice that devastates farmland. She corroborates with local activists, politicians and scientists to bring public awareness to this issue and advocates for changes in state and federal regulations of biosolids land use. Read all of Lidia's MOTHER EARTH NEWS posts* here*.*
