



## The United Sludge-Free Alliance Recommended Reading

*From Scientific American, February 2008*

### **Where can an earthworm go to find good, clean dirt?**

Earthworms eat poop spread on agricultural fields as fertilizer, and end up with heavy loads of disinfectants, fragrances and even pharmaceuticals. Scientists from the U.S. Geological Survey collected worms from three fields—a soybean field with sewage sludge spread on top, a cornfield fertilized with swine manure, and another soy field with no applications of either in seven years. Of the 28 contaminants in the sewage field soil, 25 showed up in the worms, including tributyl phosphate (a flame retardant), trimethoprim (an antibiotic) and the disinfectant triclosan—a pollution trifecta. It is unclear what effects, if any, these chemicals are having on the worms—or how they might be moving up the food chain—but the worms carried them at much higher concentrations than the surrounding soil, suggesting that the creatures are retaining the substances. And the problem is not confined just to those fields that get the sewage treatment. The researchers found that some of the same compounds, such as triclosan, showed up in all three fields, indicating that they might linger in the soil for years or find their way into farm fields through nearby septic systems or runoff. ([USGS; Environmental Science & Technology](#))

<http://www.scientificamerican.com/article.cfm?id=news-bytes-of-the-week-google&print=true>