

Selected Sludge Research Published since 1997

1. Oremland, R.S.; J. F. Stolz: (2003). The Ecology of Arsenic. *Science* vol 300.
2. Welch, A.H.; D.B. Westjohn, et al. (2000). Arsenic in Ground Water of the United States: Occurance and Geochemistry. *Groundwater* vol 38, No. 4.
3. Kolpin, D.W.; Edward T. Furlong, et al: (2002). Pharmaceuticals, Hormones, and Other Organic Wastewater Contaminants in U.S. Streams, 1999-2000. A National Reconnaissance . *Env. Science & Technology* vol 36, No.6.
4. Hale,R.C.(2001). Persistent pollutants in land-applied sludges. *Nature* vol 412.
5. _____. (2001). Flame retardants: persistent pollutants in land applied sludges *Nature* 412.
6. _____. Alkylphenol ethoxylate degradation products in land applied sewage sludges (biosolids). (2002). *Environmental Science and Technology*.
7. _____; M. J. LaGuardia. (2002). Synthetic Organic Pollutants in Land-Applied Sludges. *Directions in Science* 1, 10-13.
8. Howard,V.(1997). Synergistic effects of chemical mixtures: can we rely on traditional toxicology? *The Ecologist*, vol. 7, no. 25.
9. Jones, K.C. et al. (1997). Dioxins and furans in sewage sludges. *Critical Reviews in Environmental Science and Technology* 27(1) 1-85.
10. Basta, N.T.;J.J. Sloan. (1999). Bioavailability of heavy metals in strongly acidic soils treated with exceptional quality biosolids. *Journal of Environmental Quality* 28:
11. Camobreco,V.J.; B.K Richards, et al. (1997). Movement of heavy metals through undisturbed and homogenized soil columns. *Soil Science* 161: 740-750
12. Efroymson, R.; B.E. Sample, et al. 1998. Evaluation of the ecological risks with land application of municipal sewage sludge. *Environmental Science Division's Oak Ridge National Laboratory/EPA*.
13. Gibbs, R.A.;C.J. Hu, et al. 1997. Re-growth of faecal coliforms and salmonellae in stored biosolids and soil amended with biosolids. *Water Science and Technology* vol. 35, no. 11-12.
14. Giller, K.E.; Witter, S.P. et al. 1998. Toxicity of heavy metals to microorganisms and microbial processes in agricultural soils: a review. *Soil Biology and Biochemistry* vol 30, no. 10-11.
15. Harrison, E.Z.; McBride, M.B. et al. 1999. Land application of sewage sludges: an appraisal of the US regulations. *Int. J. Environment and Pollution*, vol 11, no. 1.
16. US EPA/USDA. 2000. Guide for field storage of biosolids.
17. McBride, M.B.; Richards,B.K. et al. 1999. Long-Term Leaching of Trace Elements in a heavily sludge-amended silty clay loam soil. *Soil Science*, vol. 164, no. 9
18. _____.1998. Molybdenum uptake by forage crops grown in sewage sludge-amended soils in field and greenhouse. *Journal of Environmental Quality*, vol. 29, no. 3.

19. _____. 2002. Toxic metals in sewage sludge-amended soils: has promotion of beneficial use discounted the risks? *Advances in Environmental Research*
20. Sitaula, B.K.;A. Almas, et al. 1999. Assessment of heavy metals associated with bacteria in soil. *Soil Science and Biochemistry* 31.
21. McBride, M.B. 2001. Cupric Ion Activity in Peat Soil as a Toxicity Indicator for Maize. *Journal of Environmental Quality*, vol 30, no.1.
22. National Research Council. 2002. Biosolids Applied to Land. *National Academy of Sciences Press*.
24. US EPA. September 6, 2002. Memorandum from the EPA Inspector General to Administrator Christine Todd Whitman. *Key Management Challenges: Management of Biosolids*.
25. Lewis, D.L.; D. K. Gattie. 2002. Pathogen Risks from Applying Sewage Sludge to Land. *Environmental Science & Technology*.
26. Gattie, D.K.; Lewis, D.L. 2004. A high-level disinfection standard for land-applied sewage sludges (biosolids). *Environmental Health Perspectives*. Vol 112 , no.2.
27. Lewis, D.L. and D.K. Gattie. 2003. Comment on "Evidence for the Absence of *Staphylococcus aureus* in the the Land Applied Biosolids." *Environmental Science & Technology*.
- 27b,_____.(2002) Interactions of pathogens and irritant chemicals in land-applied sewage sludges (biosolids). *BMC Public Health* 2:1
28. Richards B. et al. (1998) Metal mobility at an old heavily loaded sludge application site. *Environmental Pollution* 99: 365-377.
29. Jacobsen E.; Effects of Land Application of Composted Biosolids on Groundwater and Native Vegetation in the New Jersey Pinelands. *US Geological Fact Sheet* FS-035-97.
30. Norris C. et al.(1999). Use of MINTEQUA2 and EPA LMTP to estimate groundwater pathway risks from the land disposal of metal-bearing wastes. Geo-Hydro Inc. Denver, CO.
31. Schiffman S.S.; et al.(2000). Potential health effects of odor from animal operations, wastewater treatment facilities and recycling byproducts. *J.Agromed*, 7.
32. NIOSH (2002). Guidance for controlling potential risks to workers exposed to class B biosolids. *NIOSH publication no 2002-149*.
33. Winter, E.C.; et al. Ground Water and Surface Water: A Single Resource. *USGS Water Resources*
34. Silva, E; et al. Something from "Nothing"—Eight Weak Estrogenic Chemicals Combined at Concentrations below NOECs Produce Significant Mixture Effects (2002) *Environmental Science and Technology* vol 36 no.
35. Antoniadis,V and B.J. Alloway. (2002) Leaching of cadmium, nickel, and zinc down the profile of sewage sludge-treated soil. *Communications in Soil Science and Plant Analysis*, 33 (1-2).
36. Veerina, S.S., et al.(2002) Effects of sludge filtrates on the survival and reproduction of *Ceriodaphnia dubia*. *Ecotoxicology*, 11 (2)-

37. Jensen, J. (1999) Fate and effects of linear alkylbenzene sulphonates (LAS) in the terrestrial environment. *Science of the Total Environment* 226 (2-3).
38. Khan, S.J. and J.E. Ongerth. (2002). Estimation of pharmaceutical residues in primary and secondary sludge based on quantities of use and fugacity modeling. *Water Science and Technology* 46(3)
39. Dizer, H. et al. (2002). Estrogenic effect of leachates and soil extracts from lysimeters spiked with sewage sludge and reference endocrine disrupters. *Environmental Toxicology*, 17 (2).
40. Keller, C, S.P. McGrath, et al (2002). Trace metal leaching through a soil-grassland system after sewage sludge application. *Journal of Environmental Quality*, 31(5).
41. Pemplowiak, J. and H. Obarska-Pempkowiak, (2002). Long-term changes in sewage sludge stored in a reed bed. *The Science of the Total Environment*, 297 (1-3)
42. Obbard, J.P. and K.C. Jones (2001). Measurement of symbiotic nitrogen-fixation in leguminous host-plants grown in heavy metal-contaminated soils amended with sewage sludge. *Environmental Pollution*, 116 (2).
43. Al Wabel, M.A. et al (2002). Solution chemistry influence on metal mobility in biosolids-amended soils. *Journal of Environmental Quality*, 31(4).
44. Althar, R, and M. Ahmad (2002) Heavy metal toxicity in legume-microsymbiont system. *Journal of Plant Nutrition*, 25(2)
45. _____. (2002) Heavy metal toxicity: Effect on plant growth and metal uptake by wheat and on free living azotobacter. *Water, Air and Soil Pollution*, 138 (1-4).
46. Gove, L; et al.(2001) Movement of water and heavy metals through sand and sandy loam amended with biosolids under steady-state hydrological conditions. *Bioresource Technology*, 78(2).
47. Graber, E.E. et al.(2001) Enhanced transport of pesticides in a field trial with treated sewage sludge. *Chemosphere*, 44 (4).
48. Chaudri, A.M. et al. (1999) Determination of acute Zn toxicity in pore water from soils previously treated with sewage sludge using bioluminescence assays. *Environmental Science & Technology*, 33 (1).
49. Cogger, C.G et al.(2001). Seven years of biosolids versus inorganic nitrogen applications to tall fescue. *Journal of Environmental Quality* 30(6)
50. Elliott, H.A. et al (2002) Phosphorus leaching from biosolids-amended sandy soils. *Journal of Environmental Quality* 31(2)
51. Smit L.A.A.; Spaan S; et al (2005) Endotoxin exposure and symptoms in wastewater treatment workers. *American Journal of Industrial Medicine* 48: 3039
52. Gans J. Wolinsky M. et al (2005) Computational improvements reveal great bacterial diversity and high metal toxicity in soil. *Science* Vol. 309, Issue 5739, 1387-1390.
53. Kinney C. Furlong E.T. et al (2006) Survey of organic wastewater contaminants in biosolids destined for land application *EST* Vol..40. No 23 7202-7215.

54. Kinney C. Furlong E.T, et al (2008) Bioaccumulation of pharmaceuticals and other anthropogenic waste indicators in earthworms from agricultural soil amended with biosolids or swine {CAFO} manure. *EST*
55. Glassmeyer S.T. Furlong E.T. et al (2005) Transport of chemical and microbial compounds from known wastewater discharges-potential for use as indicators of human fecal contamination. *EST* V. 39 No 14. 5157-5169.
56. Karathanasis A.D. Ming D.A. (2002) Colloid-mediated transport of metals association with lime-stabilized biosolids. *Developments in Soil Science 28A Elsevier Science. Amsterdam the Netherlands.*
57. Khuder S. Milz S. et al (2007). Health survey of residents living near farm fields permitted to receive biosolids. *Archives of Environmental and Occupational Health* Vol.62. No.1.
58. Barker J. Brown M. et al (1999). Survival of *Escherichia coli* 0157 in a soil protozoan: implications for a disease. *FEMS Microbiology Letters*. Vol 173. 291-295.
59. Paul C. Rhind S.M. et al (2005) Cellular and hormonal disruption of fetal testis development in sheep raised on pastures treated with sewage sludge. *EHP* Vol. 113. No 11.
60. Harrison E.Z. Oakes S.R. et al (2006) Organic chemicals in sewage sludges. *Science of the Total Environment*.
61. Chale-Matsau JR, Snyman HG. (2006) The survival of pathogens in soil treated with wastewater sludge and in potatoes grown in such soil. *Water Sci Technol*, 54(5): 269-77
62. De Luca G. Zanetti F. et al. (1998) Occurrence of *Listeria monocytogenes* in sewage sludge. *Zentrbl. Hyg. Umweltmed*. 201(3): 269-77.
63. Gale P. (2005) Land application of treated sewage sludge: quantifying pathogen risk from consumption of crops. *J App. Microbio*. 98: 380-396.
64. Sahlstrom L. deJong B et al.(2006) *Salmonella* isolated in sewage sludge traced back to human cases of salmonellosis. *Lt Appl Microbio*, 43(1)46-52.
65. Scotland and Northern Ireland Forum for Environmental Research (SNIFFER) 2007. Human Health and the environmental impacts of using sewage sludge on forestry and for restoration of derelict land.
66. Selvaratnam et al. (2004) Increased frequency of drug-resistant bacteria and fecal coliforms in an Indiana Creek adjacent to farmland amended with treated sludge. *Can J Microbio*. 50(8): 653-6.
67. Vilanova X et al. (2005) Distribution and persistence of fecal bacterial populations in liquid and dewatered sludge from a biological treatment plant. *J Gen Appl Microbio*, 51(6): 361-8.
68. Land Application of Sewage Sludge: Pathogens and Human Health Implications (2008) Bioniche Animal Health. Research and Development. PO Box 1570 Belleville ON K8M 5J2 Canada.
69. Hinkley GT. et al.(2008) Persistence of pathogenic prion protein during simulated wastewater treatment. *EST*.vol.42.
70. Baertsch C. et al (2007) Source tracking aerosols released from land-applied class B biosolids during high wind events. *Applied and Environmental Microbiology*. Vol.17, No. 14.
71. Paez-Rubio T. et al. (2007) Emission rates and characterization of aerosols produced during the spreading of dewatered Class B biosolids. *EST*. 41:3537-3544.

72. Rootbergen M. et al.(2008) Transfer of heavy metals in the food chain earthworm black-tailed god wit
Science of the Total Environment.
73. Snyder C.(2005) The dirty work of promoting “recycling” of America’s sewage sludge. *International Journal of Occupational and Environmental Health*. Vol.11, No 4: 415-427.
74. Snyder C (2008) Baltimore pilot sludge project puts children at additional risk. *International Journal of Occupational and Environmental Health*. Vol. 14, No.3 : 240-241.
75. Snyder C. Land Application on Sand and Gravel Pits not Scientifically Defensible. Response to McDowell W.H. et al. *Monitoring Demonstration at a Top-Soil Manufacturing Site in New Hampshire*. June 1,2002.