

CSREES National Water Quality Conference Symposium
Monday, January 29, 2007

Availability, Transport, and Fate of Land-Applied Waste Constituents

Session Chair: Greg Evanylo, Virginia Polytechnic Institute and State University

This symposium has been developed by the members of the W-1170 Multi-State Project "Chemistry, Bioavailability, and Toxicity of Constituents in Residuals and Residual-Treated Soils" to summarize the research that members of this workgroup have conducted with biosolids, manures, water treatment residuals, and other waste products subjected to a variety of treatment processes. The constituents addressed in the symposium will be both traditionally-studied nitrogen, phosphorus, and trace inorganic elements as well as pathogens and emerging organic pollutants. The speakers will present data that demonstrate the relationship between the content, availability, and management of these constituents and their impact or potential impact on water quality.

1:30 PM Welcome to symposium, and introduction to Part I: Nutrients, trace elements, and pathogens, Greg Evanylo

1:35 PM Metal interactions in biosolids and biosolids-amended soils: Sorption mechanisms to remediation applications. K.G. Scheckel*, U.S. Environmental Protection Agency; M. Chappell; A.G.B. Williams; and J.A. Ryan.

1:55 Application of water treatment residuals to agricultural land to reduce contamination of surface and ground water: W-1170 research efforts. N. Basta*, Ohio State University; J. Ippolito; H. Elliott; and G. O'Connor.

2:15 Predicting and managing nitrate-N leaching from biosolids applied to sand & gravel mined lands. W. Lee Daniels*, Virginia Polytechnic Institute and State University; and Greg Evanylo.

2:35 Influence of twenty years of land application of Class B biosolids on soil microbial properties. Huruy Zerzghi and Ian Pepper*, University of Arizona.

2:55 Discussion

3:00 Break

3:15 Introduction to Part II: Emerging contaminants

3:20 Fate of pharmaceuticals and personal care products following land application of municipal biosolids. Edward Topp*, Agriculture and Agri-Food Canada; Karim Abbaspour; Andrew Beck; Alistair Boxall; Peter Duenk; Kathrin Fenner; David Lapen; Mats Larsbo; Hongxia Li; Chris Metcalfe; Sara Monteiro; and Michael Payne.

3:40 The fate and transport of biosolids-borne TCC. Elizabeth Hodges and George O'Connor*, University of Florida.

4:00 Degradation of nonlyphenol in biosolids amended soil. Dana Devin-Clarke, Mike Dubrava, and Sally Brown*, University of Washington.

4:20 Mobility, chemical lability, and bioavailability of PAHs in contaminated soils amended with biosolids. Paul Schwab*, Purdue University; Kathy Banks; Naressa Cofield; and Zakia Parrish.

4:40 Discussion

5:00 Adjourn

“*” Indicates speaker. Institution listed is speaker’s institution.