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Documents

A COMPLAINT FROM CITIZENS FOR SLUDGE-FREE LAND

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David C. Hooper
November 14, 2011
American Society for Microbiology
1752 N. Street, N.W.
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Dear Dr. Hooper and Members of the ASM Council Policy Committee,

Citizens for Sludge-Free Land has learned that the proceedings of a recent workshop paper, promoting the land application of biosolids,—processed sewage sludge—were published under the imprimatur of the American Society for Microbiology (1). Ignoring mounting evidence that links biosolids-exposure to serious environmental and health problems, the authors argue that biosolids use is safer than non-CAFO animal manure, because the former is highly regulated. This view is increasingly being challenged by the scientific community.[14,24,25,46,53,74]

A 2008 *Nature* editorial called the US biosolids program "an institutional failure spanning more than three decades."[52] In 1999, and again in 2009, the Cornell Waste Management Institute warned that the current land application regulations do not protect public health, animal health, agricultural productivity, or the environment.[24,25] During this time a team of scientists led by research microbiologist David Lewis started to document and explain why hundreds of

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rural residents[68] living and working near fields treated with biosolids reported serious illnesses, even deaths.[39-43] A 2005 health study of sludge-exposed residents in Ohio[32] yielded similar results as those of Lewis et al.[42]

The 2002 National Research Council (NRC) report, *Biosolids Applied To Land* confirmed that the current US regulations are not grounded in recent science nor based on reliable risk assessment models[53] and recommended continuing research on chemical/pathogen interactions.[53:p.332] Sewage sludge is not "night soil". Unlike animal manures, biosolids are a complex, unpredictable mixture of pathogens and toxic industrial wastes. With so much uncertainty and too many variables, agent-specific risk assessment cannot identify the actual hazards when such a complex mixture is applied to farms. Recognizing the inadequacy of rules based on a component based quantitative risk assessment approach, the NRC recommended focusing on health end points and environmental tracking: [53:p.328]

". . . even if a summary index of an adverse response to mixtures was available, it would not necessarily reflect the total hazards of exposure to biosolids because of the inability to identify all of its hazardous constituents and their potential for interaction in vivo . . . thus it is not possible to conduct a risk assessment for biosolids at this time (or perhaps ever) that will lead to risk-management strategies that will provide adequate health protection without some form of ongoing monitoring and surveillance . . . the degree of uncertainty requires some form of active health and environmental tracking."

Yet throughout their workshop paper King and his co-authors ignore synergistic interactions of pollutants in complex mixtures and focus narrowly on component-based quantitative risk assessment of just a handful of contaminants. They use deceptive language to describe biosolids. One of the authors recently called those who advise against using biosolids composts to grow vegetables "ecoterrorists." The authors ignore recent biosolids research identifying new groundwater risks, such as virus survival and infectivity[25,65] and facilitated transport of chemical/pathogen mixtures.[25,62] They ignore bacterial proliferation and regrowth while sludge is being processed[6] and after it is spread.[3,5,8,19,83] They discount a growing body of research that is finding antibiotic resistant bacteria in wastewater, in biosolids, and in soil that has been treated with biosolids.[34,25,55,63,64,81] They dismiss the work of prion experts,[28,56,60] and reported and documented adverse health effects caused by exposure to biosolids-generated bioaerosols.[1,18,25,42,50,54,67,77] The authors' almost total disregard of research and reports linking serious health and environmental impacts to sludge-exposure constitutes blatant selection bias.

Not only the charts, but also ten of the fifteen cited health related documents were authored or co-authored by Ian Pepper. Pepper chairs the Water Quality

Center (WQC) at the University of Arizona where industrial members each pay up to $90,000 for a three-year membership that entitles them to design and choose research projects supportive of their industries. Industrial WQC members include waste water treatment agencies, their lobbying groups, and Synagro Technologies Inc.—the nation's largest company in the biosolids business. The WQC brochure lists a major benefit for its industrial members: WQC research "ensures credibility with the public and local community" because it is generated at a "prestigious university" under the aegis of the National Science Foundation.

In 2000, responding to reports that hundreds of prize winning dairy cattle died after ingesting forage grown on land treated with biosolids, EPA worked with the University of Georgia to co-author a paper that used fraudulent data and other misleading information to prove that these animal deaths could not have been caused by ingesting contaminated forage.[14,74:pp.421-422] Fabricating data is recognized as scientific misconduct. But deliberately disseminating narrowly focused, biased, inaccurate and misleading information, based on questionable risk assessment assumptions; while failing to consider most peer reviewed articles and field reports that have identified serious health and environmental problems linked to biosolids exposure—although not scientific misconduct—surely violates recent EPA guidelines of what constitutes scientific integrity.

Without the sanction of the American Society for Microbiology, the King et al. paper is merely another industry-driven promotion of biosolids. However the ASM imprimatur gives the paper unwarranted scientific credibility. Worse, this document is already being distributed to the public, public officials, and the media as the latest scientific word on the benefits and safety of biosolids use (2).

CFSL urges the ASM Council to remove its logo from the King et al paper. The American Society for Microbiology should not be in the business of marketing biosolids.

Sincerely yours,
Caroline Snyder Ph.D.
President

(1) Gary M. King et al. (7/11) *Land Application of Organic Residuals: Public Health Threat or Environmental Benefit.* ASM, Washington, DC.
(2) *Rapid Health Impact Assessment* (10/11) Outagamie Co. Public Health Division, Greenville, WI.

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