

Application of a Dynamic Model to Assess Microbial Health Risks Associated with Beneficial Uses of Biosolids

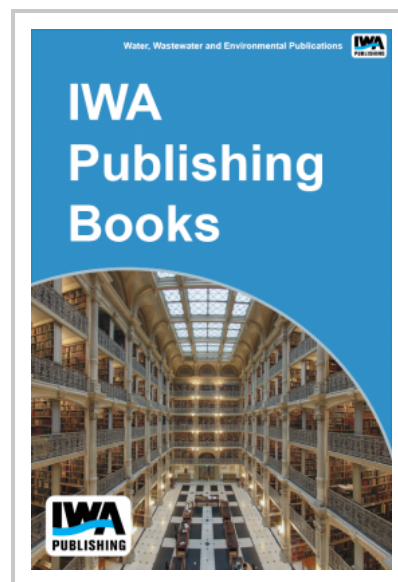
Microbial risk assessment is a structured approach to estimating risks associated with environmental exposure to pathogens by using available environmental data.

In this report the researchers took advantage of three sources of environmental data to estimate risk: 1) pathogen monitoring of raw sludge efficacy of treatment processes, and pathogen monitoring of post-treatment biosolids.

This risk assessment approach is able to estimate risks even for Class A biosolids where post-treatment monitoring data are all below the detectable level. Using this approach this report provides risk estimates for a number of different models to gain insight into risks associated with different aspects of the biosolids treatment and application process.

This report provides an approach to conducting risk assessments that takes advantage of pathogen data from raw sludge and data on treatment process efficacy as additional data sources to the post-treatment data. In this context the raw sludge and treatment data are considered prior information that can inform the risk estimate, and the post treatment data is used to inform the likelihood.

The risk assessment framework present in this report provides a mechanism to discuss biosolids management microbial risk using a common metric for comparison of treatment methods, management alternatives, and potentially to set risk-based standards for microbial contaminants in biosolids.



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