



Water Environment Federation's
Summary for Communication with the Public or Media about the WERF Report:
*“Examination of Reactivation and Regrowth of Fecal Coliforms in Centrifuge Dewatered,
Anaerobically Digested Sludges”*

June 6, 2006

A recently published Water Environment Research Foundation (WERF) study reported levels of fecal coliform bacteria in dewatered solids at seven wastewater treatment facilities. The study is the first phase of research initiated by wastewater professionals as part of ongoing efforts to apply the most effective practices to protect public health and the environment.

At four of the seven facilities studied, higher levels of fecal coliforms were detected after dewatering in high solids centrifuges than before this dewatering treatment. At three facilities no increase was observed. One potential explanation for the finding at the facilities that showed an increase in bacterial counts is that fecal coliform bacteria were reactivated during the dewatering process. Because of the limited scope of the study — the initial research phase assessed the operations of only seven of 16,000 U.S. wastewater treatment plants — further study is warranted.

Many wastewater treatment plants use digesters that treat wastewater sludge to a specific temperature for a designated time period, along with other forms of treatment, to kill disease-causing microscopic organisms (pathogens).

Fecal coliform bacteria concentrations are used as an indicator of the average amounts of bacterial and viral pathogens in biosolids treated by biological processes. Some wastewater treatment facilities test for the presence of these indicator organisms to ensure compliance with the U. S. Environmental Protection Agency (EPA) regulations that govern biosolids use and disposal (Title 40 of the Code of Federal Regulations, Part 503). Testing for fecal coliform bacteria is one of three options available to wastewater agencies to demonstrate compliance with the Class B pathogen requirements of these regulations.

This initial research, while limited in scope, raises a question as to whether high-solids centrifuge dewatering after anaerobic digestion, can result in the reactivation of fecal coliform bacteria. The study did not determine the mechanisms for reactivation and regrowth of fecal coliform bacteria.

According to WERF, a follow-on phase of research is already underway to help define the nature and extent of this phenomenon and to propose actions for wastewater treatment facilities. In addition, the Water Environment Federation (WEF) is assembling a task force that will evaluate

the initial study's implications and related operational and process options. This information will be available to WEF members and wastewater treatment facilities by the end of August 2006.

Safe practices for the use of biosolids as an agricultural fertilizer are based on decades of ongoing research and practical experience. The treatment processes and land application site restrictions required by EPA and additional state regulations continue to provide multiple layers of protection for human and animal health and for the environment.

The thousands of municipalities and utilities that treat the public's wastewater are engaged in ongoing research to enhance our ability to protect public health and the environment. This study is an example of our commitment to build on the extensive body of science in this field, which will lead to enhanced processes, testing, and operational procedures.

It is important to note that this research was initiated by the wastewater community based on priorities developed in a multi-stakeholder research summit. WEF, along with WERF, and EPA remain committed to continuing research on issues related to biosolids management and the development and dissemination of best practices based on the results of this research.

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