Livestock and Poultry Environmental (LPE) Learning Center.
Educational Webcast Series
http://www.extension.org/animal+manure+management

Microbes: From Farm to Public Risk
October 19, 2012

2:30 pm (eastern), 1:30 pm (central), 12:30 pm (mountain), 11:30 am (pacific)

The movement of bacteria and viruses from AFOs, municipal waste water, septic systems, and wildlife continues to complicate water quality throughout the country and world. Though much has been learned in recent years, misconceptions and unknown areas still abound. This webinar will cover the latest trends in microbial source tracking efforts, fate and transport of bacteria in the environment, and quantitative microbial risk assessment. Topics to be discussed will include the importance of understanding bacterial transport in the subsurface including examples of recent outbreaks attributed to drinking contaminated groundwater, as well as factors affecting movement and the benefits and limitations of using indicator organisms as pathogen surrogates. A state of the science discussion related to microbial source tracking including recent innovations as well as pros and cons associated with the various approaches will also be discussed. Finally, the discussion will culminate with the application and use of quantitative microbial risk assessment, which enables the end user to input pathogen measurements and other exposure factors into decision making safety tools for water, food, and other exposure matrices. *An application for continuing education credit for Certified Crop Advisors (CCAs) and members of the American Registry of Professional Animal Scientists (ARPAS) has been submitted.*

John Brooks graduated from University of Texas at El Paso with a B.S. degree in Microbiology & Immunology, which was followed with his graduate studies at the University of Arizona where he earned his Ph.D. in Environmental Microbiology. Currently he is a research microbiologist at the USDA-ARS Genetics and Precision Agriculture Unit at Mississippi State University and graduate faculty with the university. He is the principal investigator of the Environmental Microbiology laboratory at his location. His research foci include: fate and transport of bacterial pathogens in the environment, microbial ecology, and quantitative microbial risk assessment. Phone: (662) 320-7411; E-mail: john.brooks@ars.usda.gov

Dr. Terry Gentry is currently an Associate Professor of Soil and Aquatic Microbiology at Texas A&M University and Director of the Soil and Aquatic Microbiology Laboratory. He received B.S. and M.S. degrees in Agronomy from the University of Arkansas and a Ph.D. in Microbiology and Immunology from the University of Arizona. He did postdoctoral training in Environmental Microbiology at Oak Ridge National Laboratory. Dr. Gentry's research program focuses on the development and use of molecular technologies to enhance the detection and remediation of environmental contamination. This includes microbial source tracking for watershed characterization and protection and also evaluation of best management practices for grazing systems and land application of animal manures. He has instructed undergraduate and graduate courses in Soil and Water Microbiology, Environmental Microbiology and Environmental Soil Science. Phone: (979) 845-5323; Email: tgentry@ag.tamu.edu

Dr. Carl Bolster received his Ph.D. in Environmental Science from the University of Virginia. He spent one year as a postdoctoral research associate in the School of Forestry at Yale University before spending three years as an assistant professor in the Department of Natural Resources at the University of New Hampshire where he taught courses in watershed hydrology and contaminant transport. He is currently a research hydrologist at USDA-ARS Animal Waste Management Research Unit in Bowling Green, KY. His research interests include the fate and transport of pathogens and indicators through soils and aquifer materials, improving regression methods for fitting phosphorus isotherm sorption data, and improving the accuracy of the phosphorus index for assessing risk of phosphorus loss from agricultural fields. Phone: (270)-781-2632 x 244; Email: carl.bolster@ars.usda.gov

How Do I Participate?

On the day of the webcast, go to www.extension.org/58813 to download the speaker's power point presentations and connect to the virtual meeting room. First time viewers should also follow the steps at: www.extension.org/8924.

Links For More Information:

* Quantitative Microbial Risk Assessment
  http://wiki.camra.msu.edu/index.php?title=Quantitative_Microbial_Risk_Assessment_%28QMRA%29_Wiki
* 2012 Bacterial Source Tracking - State of the Science Conference http://texasbst.tamu.edu/2012-conference/
* Introduction to Manure Pathogens http://www.extension.org//8648
* Identifying the Source of Pathogen Contamination of Water http://www.extension.org//8960

The LPE Learning Center is a project dedicated to the vision that individuals involved in public policy issues, animal production, and delivery of technical services for confined animal systems should have on-demand access to the nation's best science-based resources. See our website at: http://www.extension.org/animal+manure+management.