



Livestock and Poultry Environmental (LPE) Learning Center.

Educational Webcast Series

<http://www.extension.org/animal+manure+management>

Bioaerosols from Feedlots and Dairy Farm Operations

May 23, 2014

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

Concentrated animal feeding operations can create large amounts of aerosols, comprised of dust, odors, and biological particles. Dairy and feedlot operations can generate these aerosols during both waste application and animal activity throughout the day. It is well known that bacteria and endotoxin can travel over large distances given certain conditions; however it is also well known that the air environment is an extremely harsh environment for bacteria. Aerosolized bacteria and endotoxin released from feedlot and dairy operations potentially pose a risk to the occupationally exposed as well as the general public. This webinar will focus on research at two locations where aerosolized bacteria and endotoxin are being measured from dairy and feedlot operations. The listener will take away an understanding of the processes behind aerosol generation, levels of bacteria and endotoxin in the air surrounding these operations, and potential issues associated with exposure to the public. *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.*



Becky Larson is an assistant professor and extension specialist in the Biological Systems Engineering Department at UW-Madison focusing on biological waste issues. Becky completed her B.S., M.S., and Ph.D. in Biosystems Engineering Department at Michigan State University. Her research and extension interests include all areas of biological waste including manure management, handling and treatment of agricultural waste, diffuse source pollution, agricultural sustainability, and waste-to-energy technologies including biogas production from anaerobic digestion. Phone: 608-890-3171; E-mail: ralarson2@wisc.edu

Dr. Robert Dungan is a Research Microbiologist at the Northwest Irrigation and Soils Research Laboratory with the USDA-Agricultural Research Service in Kimberly, Idaho. He received his B.S. degree (1993) in Environmental Science from Rutgers University and his Ph.D. degree (1999) in Soil and Water Science from the University of California, Riverside. Over the last decade Dr. Dungan's research has addressed the benefits and risks of using industrial byproducts in agriculture and other soil-related applications. He has recently been conducting research to assess the transport of airborne endotoxin and pathogens from dairy operations and during center pivot irrigation of manure wastewaters. Additional research includes the development of emissions estimate for ammonia and greenhouse gases from integrated dairy cropping systems. Phone: 208-423-6553; E-mail: robert.dungan@ars.usda.gov



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. He has authored or co-authored over 35 peer-reviewed manuscripts and over 50 proceedings and presentations at international and national conferences. John will serve as the moderator for this webcast. Phone: 662-320-7411; E-mail: john.brooks@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.

For More Information

- Understanding Manure Irrigation <http://fyi.uwex.edu/manureirrigation/>
- Manure Pathogens and Microbial Byproducts <http://www.extension.org/70212>
- Bioaerosols and Pathogens <http://www.extension.org/70490>

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>.