Livestock and Poultry Environmental (LPE) Learning Center
Educational Webcast Series
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Sponsored by the: Air Quality Education in Animal Agriculture Project

Hydrogen Sulfide: How Serious an Outdoor Air Quality Concern?

September 19, 2008

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

Hydrogen sulfide gas (H2S) is produced from animal manures under anaerobic conditions. H2S is an odorant and is known as an indoor air pollutant of concern, where it can reach toxic, and even lethal, concentrations in confined manure storage pits. But is it more than an odorant at outdoor concentrations? What perspective can be offered by a state agency that has regulated H2S from AFOs and has a monitoring program in place? With the US EPA deliberating whether AFOs must comply with CERCLA/EPCRA reporting requirements (decision due out this fall), discussion of the scope of emissions from livestock operations seems warranted. What can recent studies on H2S emissions from confinement buildings and from open lots tell us about the extent of importance to place on H2S as an outdoor air quality concern? *Continuing education credit application for Certified Crop Advisors (CCAs) and members of the American Registry of Professional Animal Scientists (ARPAS) have been submitted.*

Dr. Larry Jacobson is a Professor and Extension Engineer at the University of Minnesota. His interests are livestock housing and environmental control, indoor air quality concerns, waste management systems, and energy and housing alternatives for livestock with emphasis on swine production systems. He has several research projects including measurement of hydrogen sulfide emissions and development of a hydrogen sulfide model for animal production sites. He received his Ph.D. from the University of Minnesota. **Phone**: (612) 625-8288. **Email:** jacob007@umn.edu

Jim Sullivan has been with the Minnesota Pollution Control Agency since 1996 working in both the Feedlot and Environmental Review programs. His primary focus has been the development of livestock air quality analysis in the feedlot permitting program and the environmental review program. He has coordinated a variety of air monitoring and modeling efforts and was active in the development of feedlot air quality policy and rules. Mr. Sullivan holds degrees in geology, environmental management, and law. He is an adjunct professor at Saint Mary's University, leading graduate courses in statistics and decision theory. **Phone**: 651/297-1788 **Email**: jim.sullivan@pca.state.mn.us

Dr. Saqib Mukhtar, Associate Professor and Extension Specialist, Texas AgriLife Extension. Dr. Mukhtar's extension and research interests are in engineering systems related to water quality, air quality, and waste management related to livestock and poultry feeding operations. He was involved in a large research project measuring hydrogen sulfide emissions from open feedlots in Texas. He received his Ph.D. from Iowa State University. **Phone:** (979) 458-1019, **Email:** mukhtar@tamu.edu

Links for More Information:

*Final Report to National Pork Board, hydrogen sulfide monitoring research
http://cop.extension.org/mediawiki/files/4/4d/Final_Report_to_NPB_12-1-06.pdf

*Jacobson, Larry D. (2007) 'Animal Structures: Air Quality' Encyclopedia of Agricultural, Food, and Biological Engineering, 1:1, 1-3, DOI: 10.1081/E-EAFE-120007233.
http://cop.extension.org/mediawiki/files/8/89/Ency_Agr_Food_Eng_Paper_Jacobson.pdf

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.

The Air Quality Education in Animal Agriculture project is collaboration of national experts from across the U.S. working to enhance learning opportunities in air quality issues related to animal agriculture. In addition to educational webcasts, the project will develop an air quality curriculum that will be made available for classroom or extension use and conduct regional workshops.