

RICHARD R. STOWELL
Curriculum Vitae (abbreviated)

Education Ph.D., Agricultural Engineering, Michigan State University, 1997
MS, Agricultural Engineering, University of Wisconsin - Madison, 1988
BS, Agricultural Engineering, University of Wisconsin - Madison, 1985

Title and Appointments Associate Professor, since 7/07; employed as an Assistant Professor 1/01
Biological Systems Engineering (70%) and Animal Sciences (30%),
University of Nebraska – Lincoln
Extension (75%), Teaching (25%)

Prior Employment Experience

Instructor, Assistant Professor, 1996-2000
Food, Agricultural & Biological Engineering, The Ohio State University
OSU Extension (80%), Ohio Agricultural Research and Development Center (20%)
Consultant, self-employed – Laid out new and expanded dairy facilities, 1994-95

Research and Teaching Program Area

Animal environment – Emphasis on ventilation and housing systems, climate effects, and air quality

Dairy-Focused Grants

Stowell, R. R., N. St. Pierre, and C. Gooch. 2000-2. *Tunnel Ventilation for Freestall Facilities: Comparative Performance Study.* Ohio Dairy Research Fund; \$7,500 for 18 months.

Selected Other Grants

- Stowell, R., and J. Heemstra.** 2011-16. *National Facilitation of Extension Programming in Climate Change Mitigation and Adaptation for Animal Agriculture.* USDA AFRI; \$4,290,618 for 5 yrs.
- Stowell, R., and J. Heemstra.** 2011-16. *Integrated Resource Management Tool to Mitigate the Carbon Footprint of Swine Produced in the U.S.* University of Arkansas. USDA AFRI subaward; \$161,057 for 5 years.
- Erickson, G., A. Schmidt, and R. Stowell.** 2013-15. *Integrated Anaerobic Digestion with Algae Bioenergy and Green Aquaculture.* Nebraska Environmental Trust; \$250,000 for 2 years.
- Erickson, G., R. Stowell, and B. Auvermann.** 2010-11. *Greenhouse Gas Emissions and Nitrogen Cycling from Beef Production Systems: Effect of Climate, Season, Production System, Diet, and Management.* USDA AFRI; \$49,960 for 12 months.
- Stowell, R., and J. Heemstra.** 2010-14. *Air Emissions from Deep-Bedded Mono-Slope Beef Barns.* South Dakota State Univ. USDA AFRI subaward; \$26,340 for 3 years.
- Stowell, R., and J. Heemstra.** 2012-13. *Mitigation Monitoring and Microbial Assessment of Gas-Phase Biofilters and Extension Outreach.* University of Minnesota. USDA AFRI subaward; \$24,653 for 15 months.
- Stowell, R., J. Heemstra, and R. Koelsch.** 2008-12. *Air Quality: Odor, Dust and Gaseous Emissions from Concentrated Animal Feeding Operations (CAFOs) in the Southern Great Plains.* Texas A&M University, USDA NIFA subawards; \$20,400 for 4 years.
- Stowell, R. R.** 2007-12. *Air Quality Extension and Education: Enhanced Learning Opportunities for Addressing Air Quality Issues in Animal Agriculture.* USDA NRI Integrated programs; \$498,562 for 5 years.

Courses / Instructor: - AGEN 443, Design of Light-Frame Structures
 - MSYM 342, Animal Housing Systems
 - MSYM 462, Equipment Systems Management

Professional & Awards

Licensed Professional Engineer, P.E. (Wisconsin)
 Rural Builder Hall of Fame inductee, 2014
 President's Special Service Recognition Award, Nebraska Planning & Zoning Association, 2013
 Outstanding Community of Practice (LPELC), USDA NIFA eXtension award, 2011
 Certificate of Excellence, a CAST Educational Materials Award, 2011
 Educational Aids Blue Ribbons (6) – American Society of Agricultural and Biological Engineers

Selected Dairy-Focused Publications

- Stowell, R.**, and C. Henry. 2004. The economic impacts of various public-policy scenarios for methane recovery on dairy farms. *2003-2004 Nebraska Dairy Report, MP82-A*, p. 6-9. Institute of Agriculture and Natural Resources, University of Nebraska - Lincoln.
- Stowell, R. R.**, C. A. Gooch, and W. G. Bickert. 2003. Design parameters for hot-weather ventilation of dairy housing: A critical review. In: *Proceedings of Fifth International Dairy Housing Conference*, p. 218-226. Fort Worth, TX, January 30 – Feb 1, 2003. Ed. K. A. Janni. ASAE, St. Joseph, MI, USA.
- Gooch, C. A., and R. R. **Stowell**. 2003. Tunnel Ventilation for Freestall Facilities – Design, Environmental Conditions, Cow Behavior, and Economics. In: *Proceedings of Fifth International Dairy Housing Conference*, p. 227-234. Fort Worth, TX, January 30 – Feb 1, 2003. Ed. K. A. Janni. ASAE, St. Joseph, MI.
- Stowell, R.R.**, C.A. Gooch, and S. Inglis. 2001. Performance of tunnel ventilation for freestall dairy facilities as compared to natural ventilation with supplemental cooling fans. In: *Livestock Environment VI, Proceedings of the Sixth International Symposium*, p.29-40. Louisville, KY, May 21-23, 2001. Ed. R. R. Stowell, R. Bucklin, and R. W. Bottcher. ASAE, St. Joseph, MI.
- Stowell, R. R.** 2000. Heat stress relief and supplemental cooling. In: *Dairy Housing and Equipment Systems: Managing and Planning for Profitability, NRAES-129*, p 175-185. Natural Resource, Agriculture, and Engineering Service, Ithaca, NY 14853.
- Stowell, R. R.**, and S. Inglis. 2000. Sand for bedding. In: *Dairy Housing and Equipment Systems: Managing and Planning for Profitability, NRAES-129*, p 226-234. Natural Resource, Agriculture, and Engineering Service, Ithaca, NY 14853.
- Bickert, W. G., B. Holmes, K. Janni, D. Kammel, R. **Stowell**, and J. Zuloovich. 2000. *Dairy Freestall Housing and Equipment, MWPS-7*, Seventh Edition. Midwest Plan Service, Iowa State University, Ames, IA 50011.
- Stowell, R. R.**, W. G. Bickert and F. V. Nurnberger. 1998. Radiant heating and thermal environment of metal-roofed dairy barns. In: *Proceedings of the Fourth International Dairy Housing Conference*, p. 193-200. St. Louis, MO, January 28-30, 1998. Ed. J. P. Chastain. ASAE, St. Joseph, MI.
- Stowell, R. R.**, and W. G. Bickert. 1997. Heat stress characterization of dairy cattle in naturally ventilated barns using a thermal energy model. In: *Livestock Environment V, Proceedings of the Fifth International Symposium*, p.218-225. Bloomington, MN, May 29-31, 1997. Ed. R. W. Bottcher and S. J. Hoff. ASAE, St. Joseph, MI.

Selected Other Publications

- Stowell, R.**, C. Powers, J. Heemstra, J. Harrison, E. Whitefield, S. Mukhtar, D. Smith, M. Risse, P. Knox, G. Hawkins, C. Gooch, J. Pronto, L. Jacobson, and D. Schmidt. 2015. Animal agriculture in a changing climate: A national approach. In: *Proceedings of the Dairy Environmental Systems and Climate Adaptation Conference*, p. 47-51. Cornell University, Ithaca, NY.
- Cortus, E. L., M. R. Al Mamun, M. J. Spiehs, F. Y. Ayadi, B. E. Doran, K. D. Kohl, S. Pohl, S. D. Cortus, R. **Stowell**, and R. Nicolai. 2015. Site, environmental, and airflow characteristics for mono-slope beef cattle facilities in the Northern Great Plains. *Transactions of the ASABE* 58(1): 123-135.
- Spiehs, M. J., E. L. Cortus, G. A. Holt, K. D. Kohl, B. E. Doran, F. Y. Ayadi, S. D. Cortus, M. R. Al Mamun, S. Pohl, R. Nicolai, R. **Stowell**, and D. B. Parker. 2014. Particulate matter concentrations for mono-slope beef cattle facilities in the Northern Great Plains. *Transactions of the ASABE* 57(6): 1831-1837.
- Smith, D. W., S. Mukhtar, and R. **Stowell**. 2014. Advanced Application Techniques. Making the Most of Your Manure Responsibly, EBN-007. Texas A&M AgriLife Extension Bookstore. <http://www.agrilifebookstore.org/product-p/ebn-007.htm>.
- Whitefield, E., R. **Stowell**, C. Powers, M. Risse, P. Knox, G. Hawkins, J. Harrison, S. Mukhtar, D. Smith, L. Jacobson, D. Schmidt, C. Gooch, and J. Pronto. 2013. Animal agriculture for a changing climate – using new ways of educating extension agents. In: *Proceedings of the 5th Greenhouse Gases and Animal Agriculture Conference (GGAA 2013)*, 4(2): 568. Cambridge University Press.
- Stowell, R.**, J. Heemstra, R. Sheffield, E. Wheeler, D. Schulte, and K. Janni. 2012. Highlights of the Air Quality Education in Animal Agriculture project. In *Proceedings of the Ninth International Livestock Environment Symposium*, Pub # ILES12-1906. ASABE, St. Joseph, MI.
- Harmon, J. D., M. C. Brumm, L. D. Jacobson, S. H. Pohl, D. R. Stender, and R. R. **Stowell**. 2012. Field performance evaluation of a ventilation system: A swine case study. *Applied Engineering in Agriculture* 28 (2): 251-257.
- Henry, C. G, G. E. Meyer, D. D. Schulte, R. R. **Stowell**, A. M. Parkhurst, R. E. Sheffield. 2011. Mask scentometer for assessing ambient odors. *Transactions of the ASABE* 54(2): 609-615.
- Stowell, R. R.**, J. Heemstra, D. D. Schulte, R. E. Sheffield, K. Janni, and E. F. Wheeler. 2010. Using webcasts to highlight air quality research. In *Proc. of International Symposium on Air Quality and Manure Management for Agriculture*, Pub # 711P0510cd. ASABE, St. Joseph, MI.
- Stowell, R.**, T. Mader, and J. Gaughan. 2009. Environmental Management. Chapter 9 of *Livestock Energetics and Thermal Environmental Management*, pp. 181-209, Ed. Hahn, L. and J. DeShazer. ASABE, St. Joseph, MI.
- Powers, C., D. Schulte, and R. **Stowell**. 2009. Carbon credits from livestock production. NebGuide G1962. University of Nebraska-Lincoln Extension, Institute of Agriculture and Natural Resources, Lincoln, NE.
- Powers, C. A., R. R. **Stowell**, and D. D. Schulte. 2009. Comparison of local to regional odor footprints. Presented at the 2009 ASABE Annual International Meeting, Reno, NV. Paper # 095921. ASABE, St. Joseph, MI.
- Stowell, R.**, C. Henry, C. Powers, and D. Schulte. 2008. Siting animal production facilities and evaluating odor control options using the Odor Footprint Tool. In *Proceedings: Mitigating Air Emissions from Animal Feeding Operations Conference*, p. 2-6. Iowa State Univ., Ames, IA.