

Curriculum Vitae
THOMAS D. GLANVILLE

Professor & Extension Agricultural Engineer
Department of Agricultural and Biosystems Engineering
Iowa State University

ACADEMIC APPOINTMENT:

7/1/05 – present	Average (varies): 25% Teaching / 30% Extension / 30% Research / 15% Service
7/1/96 – 6/30/05	75% Extension / 25% Research
5/1/77 – 6/30/96	100% Extension

EDUCATION:

Degree	Institution	Major Field of Study	Date
Ph D.	Iowa State University	Civil Engineering	12/87
M.S.	Iowa State University	Civil Engineering	12/75
B.S.	Iowa State University	Engineering Operations	12/72

PROFESSIONAL EXPERIENCE:

Employer	Position	Dates
Iowa State University	Professor 25% teaching 30% extension 30% research 15% service	5/1/06 – present
Iowa State University	Associate Professor 50% teaching 25% extension 25% research	7/1/05 – 4/30/06
Iowa State University	Associate Professor 75% extension 25% research	7/1/97 – 6/30/05

Iowa State University	Assistant Professor 75% Extension 25% Research	7/1/96 – 6/30/97
Iowa State University	Assistant Professor 100% Extension	7/1/88– 6/30/96
Iowa State University	Instructor 100% Extension	5/1/77 – 6/30/88
Anderson Engineering. Company, Des Moines, IA.	Project Engineer	12/1/75–5/1/77
Iowa State University	Graduate Research Assistant	3/1/74– 11/30/75
Caterpillar Tractor Company, Peoria, IL	Marketing Representative	12/72–12/73

PROFESSIONAL AND SCIENTIFIC ORGANIZATIONS:

- ASABE
- Iowa Groundwater Association
- Iowa Organics Recycling Association

HONORARY ORGANIZATIONS:

- Phi Kappa Phi
- Gamma Sigma Delta

HONORS AND AWARDS:

- 2011, Honorary Scientist and Advisor and On Agricultural Green Technology, Rural Development Administration, Republic of South Korea
- 2008 Iowa State University College of Engineering *Superior Engineering Extension Award*
- 2006 Promoted to Professor, Ag & Biosystems Engineering, Iowa State University
- 2005 *Engineer of the Year*, Mid-Central Conference ASABE (ASABE)
- 2004 Editorial Board, Compost Science & Utilization
- 2004 Iowa Section ASABE Appreciation award, for service as Iowa section 2003–2004 chairman
- 2003 Blue Ribbon Award Winner, National Educational Aids Competition, ASABE
- 2002 *Swine Mortality Disposal* extension program website selected by Natural Resources and Environmental Management (NREM) Division of the USDA Cooperative Extension System as year 2002 state “Flagship Program” for Iowa

- 2002 ASABE Honorable Mention Technical Paper Award, **Glanville, T.D., J.L. Baker, S.W. Melvin, and M.M. Agua.** 2001. *Measurement of Leakage From Earthen Manure Structures in Iowa*, Transactions of ASABE, Vol. 44(6): 1609–1616
- 2001 Blue Ribbon Award Winner, National Educational Aids Competition, sponsored by ASABE. For *dis-Solving Swine Mortality Disposal Problems* (www.abe.iastate.edu/pigsgone/)
- 2001 Letter of commendation for outstanding Technical Paper Review services, Soil & Water Division, ASABE, June 2001
- 2001 USDA Certificate of Appreciation for participation in *2001 National Integrated Water Quality Program Review Panel*, June 2001
- 1999 ASABE Superior Technical Paper Award, **Glanville, T.D., J.L. Baker, and J.K. Newman.** 1998 *Evaluation of Methods for Diagnosing Contamination in Rural Wells*. Transactions of ASABE 41(6):1625–1633
- 1995 Blue Ribbon Award, Educational Aids Competition, ASABE, (with C. Schwab & L. Miller) for *Safe Farm – Agricultural Health and Safety* series (authored 2 of 12 bulletins in this series)
- 1992 Blue Ribbon Award, Educational Aids Competition, ASABE, for *Quality Water* video tapes (series of 6) and supporting viewers guides
- 1992 Appreciation Award, Iowa Water Well Association, for developing Iowa well contractor certification legislation for State of Iowa
- 1991 Outstanding Service Award, Iowa Groundwater Association, for lead role in drafting and supporting well contractor certification legislation passed by Iowa Legislature in 1991
- 1986 Iowa State University Extension Achievement Award, for Big Springs Basin Water Quality Program
- 1986 Blue Ribbon Award, Educational Aids Competition, ASABE

APPLIED RESEARCH ACTIVITIES:

Contracts & Grants

- “Development of environmentally friendly livestock mortality disposal systems using anaerobic digestion,” 7/1/2011-12/31/2012, National Institute of Animal Science of the Rural Development Administration of the Republic of Korea, \$100,000 **T.D. Glanville (PI)**, J. Koziel, Tim Frana, H. Ahn
- “Engineering evaluation of a composting system for bio-secure disposal of livestock in Canada,” 10/1/2005–3/31/2009, Canadian Research & Technology Initiative, \$600,000 **T.D. Glanville (PI)**, J. Koziel, D.L. Reynolds
- “Environmental impact and biosecurity of composting for emergency disposal of livestock mortalities,” 7/1/2004 – 12/31/2005, Iowa Dept. of Natural Resources, \$98,297 **T.D. Glanville (PI)**, T.L. Richard, J.D. Harmon, D.L.Reynolds

- “Water quality demonstration models,” Resource Enhancement & Protection Program, program year 2004, Iowa Department of Natural Resources, \$14,660 T.D. **Glanville**, D. Meyer (PI)
- “Environmental impact and biosecurity of composting for emergency disposal of livestock mortalities,” 7/1/2003 – 7/31/2004, Iowa Dept. of Natural Resources, \$116,760 T.D. **Glanville (PI)**, T.L. Richard, J.D. Harmon, D.L. Reynolds
- “Evaluating the biosecurity of large-scale composting of animal carcasses/tissues, 2003,” USDA–NRI \$127,261 D.L. Reynolds (PI), T.D. **Glanville**
- “Environmental impact and biosecurity of composting for emergency disposal of livestock mortalities,” 7/1/2002 – 7/31/2003, Iowa Dept. of Natural Resources, \$125,012 T.D. **Glanville (PI)**, T.L. Richard, J.D. Harmon, D.L. Reynolds
- “Statewide survey of animal mortality management in Iowa,” Iowa Pork Producers Association, January – July 2001, Iowa Pork Producers Assn., \$1,200. T.G. **Glanville (PI)**
- “Impacts of compost amended soils on re-vegetation and soil erosion at highway construction sites in Iowa,” Feb. 2000 – June, 2003, Waste Management Assistance Division–Iowa Dept. of Natural Resources, and Iowa Department of Transportation, \$189,200 T.D. **Glanville (PI)**, T. L. Richard).
- “Potential pathogen movement with seepage from earthen waste storage structures used for liquid manures,” 2000 – 01, Iowa State Water Resources Research Institute, \$19,800 J.L. Baker (PI), T.D. **Glanville**, S.W. Melvin.
- “Impact of sulfate, dissolved solids, iron, and other drinking water quality parameters to on-farm performance and health of dairy cattle in Iowa: Implications for dairy industry expansion in Iowa,” 6/99 – 6/2000, Iowa Livestock Health Advisory Council, \$ 12,500, T.L. Carson (PI), M.A. Faust, T.D. **Glanville**, L.L. Timms, S.M. Ensley.
- “Undergraduate student summer internship program,” Iowa State Water Resources Research Institute, May – August 2000, \$2,500 T.D. **Glanville (PI)**, T.L. Richard.
- “Demonstration of swine carcass composting as part of an environmentally-friendly production system,” July, 1999 – June 2001, Leopold Center for Sustainable Agriculture, \$25,500 J.D. Harmon (PI), T.D. **Glanville**, T.L. Richard.
- “Evaluation of earthen waste storage structures in Iowa,” July, 1997 – Sept. 1999, Iowa Legislature, \$200,000 S.W. Melvin (PI), J.L. Baker, T.D. **Glanville**, T. L. Richard, W.W. Simpkins, M. Burkart
- “Composting of swine manure solids to produce horticultural growth media,” Iowa Agricultural & Home Economics Experiment Station, 1995, \$20,000 M. Evans (PI), T.D. **Glanville**

- “Understanding and reducing pesticide contamination of water wells,” Iowa Dept. of Agriculture and Land Stewardship, 1994, \$50,000 T.D. **Glanville (PI)**, J.L. Baker
- “Understanding and reducing pesticide contamination of water wells,” Iowa Dept. of Agriculture and Land Stewardship, 1993, \$55,000 T.D. **Glanville (PI)**, J.L. Baker
- “Ciba/State ground–water monitoring study,” Ciba–Geigy Corporation, 1993, \$20,000 T.D. **Glanville (PI)**, J. L. Baker
- “Composting for environmentally sound management of poultry and swine mortalities,” 1993, Leopold Center for Sustainable Agriculture, \$13,000 T.D. **Glanville (PI)**
- “Evaluation of burial and composting as BMP’s for disposing of dead livestock,” 1992–94, Iowa Dept. of Natural Resources, \$33,000, T.D. **Glanville (PI)**
- “Composting for environmentally sound management of poultry and swine mortalities,” 1992, Leopold Center for Sustainable Agriculture, \$13,000, T.D. **Glanville (PI)**
- “Evaluation of burial and composting as BMP’s for disposing of dead livestock,” 1991–92, Iowa Dept. of Natural Resources, \$60,000, T.D. **Glanville (PI)**
- “USDA supplemental extension water quality program grant,” 1990–91, \$35,000, T.D. **Glanville**, G.L. Miller (PI)
- “USDA Supplemental Extension Water Quality Program Grant,” 1990–91, \$15,000, T.D. **Glanville**, G.L. Miller (PI)

Scholarly Papers

Refereed Papers

- Glanville, T., D.J. Klingborg, M. Hutchinson, D. Rozeboom, and J. Bonhotal. Knowledgeable, Ready, Able: A Comprehensive Extension Agro-security Information Program for the Livestock & Poultry Industries. Extension Disaster Education Network posted at: <http://eden.lsu.edu/Resources/WhitePapers/2010WhitePapers/Pages/KnowledgeableReadyAble.aspx> (Written for 2011 Extension Disaster Education Network (EDEN) Scholarly Paper Program on Emerging, Critical, or Dynamic National Agro-security Priorities in Extension, and judged by review panel to be one of top 3 papers submitted nationally.)
- **Glanville, T.D.** and D.D. Jones. 2011. Non-ambulatory (Downer) Animals, Euthanasia, and Proper Disposal. In Cow-Calf Production in the U.S. Corn Belt. Midwest Plan Service. Iowa State University, Ames, Iowa.
- Akdeniz, N., J.A. Koziel, **T.D. Glanville**, H.K. Ahn, B.P. Crawford. 2011. Air sampling methods for VOCs related to field-scale bio-secure swine mortality

composting. *Bioresource Technology*. 102:3599-3602.

doi:10.1016/j.biortech.2010.10.100

- Akdeniz, N., J.A. Koziel, H.K. Ahn, **T.D. Glanville**, B.P. Crawford. 2010. Field scale evaluation of volatile organic compound production inside biosecure swine mortality composts. *Waste Management*. 30:1981-88.
doi:10.1016/j.wasman.2010.05.022
- Akdeniz, N., J.A. Koziel, H.K. Ahn, **T.D. Glanville**, B.P. Crawford, D.R. Raman. 2010. Laboratory scale evaluation of volatile organic compound emissions as indication of swine carcass degradation inside biosecure composting units. *Bioresource Technology*. 101:71-78.
- H.K. Ahn, T.J. Sauer, T.L. Richard, **T.D. Glanville**. 2009. Determination of thermal properties of compost bulking materials. *Bioresource Technology*. 100:3974-81.
- Berge, A.C.B., **T.D. Glanville**, P.D. Millner, and D.J. Klingborg. 2009. Methods and microbial risks associated with composting of animal carcasses in the United States. *Journal of American Veterinary Medical Association*, 234(1) 47-56.
- Akdeniz, N., J.A. Koziel, H.K. Ahn, **T.D. Glanville**, B.P. Crawford, D.R. Raman. 2009. Air sampling and analysis method for volatile organic compounds (VOCs) related to field-scale mortality composting operations. *J. Agric. Food Chem.* 57:5658-5664.
- **Glanville, T.D.**, H.K. Ahn, T.D. Richard, L.E. Shiers, and J.D. Harmon. 2009. [Soil Contamination Caused by Emergency Bio-Reduction of Catastrophic Livestock Mortalities](#). *Water, Air, and Soil Pollution*. 198(1) 285-95.
- Harper, A.F., J.M. DeRouchey, **T.D. Glanville**, D.L. Meeker, and B.E. Straw. 2008. Swine Carcass Disposal Options for Routine and Catastrophic Mortality. *Council for Agricultural Science & Technology Issue Paper No. 39*. 2008. CAST. Ames, Iowa.
- Ahn, H.K., T.L. Richard, **T.D. Glanville**. 2008. Optimum moisture levels for biodegradation of mortality composting envelope materials. *Waste Management*, 28(8) 1411-1416.
- Ahn, H.K., T.L. Richard, **T.D. Glanville**, J.D. Harmon and D.L. Reynolds. 2008. Laboratory determination of compost physical parameters for modeling of airflow characteristics. *Waste Management*, 28(2008) 660-670.
- Persyn, R.A., T.L. Richard, **T.D. Glanville**, J.M. Laflen, and P.M. Dixon. 2007. Evaluation of revegetation from blanket applied composts on a highway construction site. *Applied Engineering in Agriculture*. 23(5) 631-35.
- Persyn, R.A., **T.D. Glanville**, T.L. Richard, J.M. Laflen, and P.M. Dixon. 2005. Environmental effects of applying composted organic to new highway embankments: Part 3 – rill erosion. *Transactions of the ASABE* 48(5): 1665–1672.

- **Glanville, T.D., R.A. Persyn, T.L. Richard, J.M. Laflen, and P.M. Dixon.** 2004. Environmental effects of applying composted organic to new highway embankments: Part 2 – water quality. *Transactions of the ASABE* 47(2): 471–478.
- **Persyn, R.A., T.D. Glanville, T.L. Richard, J.M. Laflen, and P.M. Dixon.** 2004. Environmental effects of applying composted organic to new highway embankments: Part 1 – interrill runoff and erosion. *Transactions of the ASABE* 47(2):463–469.
- **Glanville, T.D., J.L. Baker, S.W. Melvin, and M.M. Agua.** 2001. Measurement of leakage from earthen manure structures in Iowa. *Transactions of the ASABE* 44(6) 1609–16. (Winner of ASABE Honorable Mention Paper Award)
- **Glanville, T.D., J.L. Baker, and J.K. Newman.** 1998. Evaluation of methods for diagnosing contamination in rural wells. *Transactions of the ASABE* 41(6):1625–1633. (Winner of ASABE Superior Paper Award)
- **Glanville, T.D., Baker, J.L., and J.K. Newman.** 1997. Statistical analysis of rural well contamination and effects of well construction. *Transactions of the ASABE* 40(2):363–370.
- **Glanville, T.D. and D.W. Trampel.** 1997. Composting alternative for animal carcass disposal. *Journal of American Veterinary Medical Association.* 210(8):1116–1120.
- **Newman, J.K., Glanville, T.D., and J.L. Baker.** 1996. Two quality assurance measures for pesticide analysis of well water: degradation in storage and GC/ELISA comparison. *Transactions of the ASABE* 35(5): 1725–30.

Conference & Other Non-refereed Articles

- **Berge, A.C. and T.D. Glanville.** 2010. Composting of Animal Carcasses: A Safe and Environmentally Sound Approach to Take Care of Animal Mortalities. *One Health Newsletter* 3(5): 13-16.
- **Glanville, T.D., H.K. Ahn, B.P. Crawford, J.A. Koziel, N. Akdeniz.** 2009. Physical, Chemical, and Biological Performance of a Plastic-Wrapped Composting System for Emergency Disposal of Disease-Related Swine Mortalities. 3rd International Symposium on Management of Animal Carcasses, Tissue, and Related Byproducts: Connecting Research, Regulations, and Response. University of California-Davis, Davis, CA. July 21-23, 2009.
- **Akdeniz, N., J.A. Koziel, H.K. Ahn, T.D. Glanville, and B.P. Crawford.** 2009. Identification, Evaluation, and Quantification of VOC's as Bio-secure Markers of Swine Carcass Degradation (poster). 3rd International Symposium on Management of Animal Carcasses, Tissue, and Related Byproducts: Connecting Research, Regulations, and Response. University of California-Davis, Davis, CA. July 21-23, 2009.

- **Glanville, T.D.**, J.A. Koziel, N. Akdeniz, B.P. Crawford, and S. Akinc. 2009. Performance of a Bio-secure Emergency Composting System for Disposal of Swine Carcasses. ASABE Paper No. 096342. 2009 ASABE Annual International Meeting, Grand Sierra Resort and Casino, Reno, NV. June 21-24, 2009.
- **Glanville, T.D.**, J. Koziel, and N. Akdeniz. 2009. On-site Composting for Bio-containment Safe Disposal of Infectious Animal Carcasses and Manure in the Event of a Bio-terrorism Attack. Final Project Report for the Canadian Food Inspection Agency and the Canadian Research & Technology Initiative. Iowa State University. 41 pp.
- Akdeniz, N., J.A. Koziel, H.K. Ahn, **T.D. Glanville**, B.P. Crawford, P.C. Hermiston, N. Shah, D.R. Raman, A.L. Pometto III, S. Beattie. 2008. Identification and evaluation of VOCs evolved from warm season swine mortality composts. ASABE Paper No. 085047. 2008 ASABE Annual International Meeting, Rhode Island Convention Center, Providence, RI, June 29-July2, 2008.
- **Glanville, T.D.**, H.K. Ahn, J.A. Koziel, N. Akdeniz, B.P. Crawford. 2008. Pathogen Inactivation Potential and Carcass Degradation in a Bio-secure Emergency Livestock Mortality Composting System. ASABE Paper No. 084426. 2008 ASABE Annual International Meeting, Rhode Island Convention Center, Providence, RI, June 29-July2, 2008.
- **Glanville, T.D.**, H.K. Ahn, J.A. Koziel, N. Akdeniz, B.P. Crawford. 2007. Performance Evaluation of a Passively-Aerated Plastic-Wrapped Composting System Designed for Emergency Disposal of Swine Mortalities. ASABE Paper No. 074038. 2007 ASABE Annual International Meeting, Sponsored by ASABE, Minneapolis Convention Center, Minneapolis, MN, 17–20 June 2007.
- Ahn, H.K., **T.D. Glanville**, B.P. Crawford, J.A. Koziel, N. Akdeniz. 2007. Evaluation of the biodegradability of animal carcasses in passively aerated bio-secure composting system. ASABE Paper No. 074037. 2007 ASABE Annual International Meeting, Sponsored by ASABE, Minneapolis Convention Center, Minneapolis, MN, 17–20 June 2007.
- Akdeniz, N., J.A. Koziel, H.K. Ahn, B.P. Crawford, **T.D. Glanville**. 2007. Qualitative Characterization of Volatile Compound Emissions during Biological Decomposition of Plant Materials using SPME-GC-MS. ASABE Paper No. 074041. 2007 ASABE Annual International Meeting, Sponsored by ASABE, Minneapolis Convention Center, Minneapolis, MN, 17–20 June 2007.
- Akdeniz, N., J.A. Koziel, H.K. Ahn, B.P. Crawford, **T.D. Glanville**. 2007. Stability Evaluation of Simulated Plant and Animal Composts Utilizing Respiration Rates and VOC Emissions. ASABE Paper No. 074155. 2007 ASABE Annual International Meeting, Sponsored by ASABE, Minneapolis Convention Center, Minneapolis, MN, 17–20 June 2007.

- **Glanville, T.D.**, H.K. Ahn, D.L Reynolds, T.L. Richard, J.D. Harmon, and S. Akinc. 2006. Environmental Impacts and Biosecurity of Composting for Emergency Disposal of Livestock Mortalities. National Carcass Disposal Symposium. Beltsville, MD.
- **Glanville, T.D.**, T.L. Richard, J.D. Harmon, D.L. Reynolds, H.K. Ahn, and S. Akinc. 2006. Composting Livestock Mortalities. *BioCycle*. Vol. 47, No. 11, p. 42-46.
- H.K. Ahn, T.J. Sauer, T.L. Richard, **T.D. Glanville**. 2006. Determination of thermal properties of compost bulking materials by using various methods. ASABE paper No. 064065. ASABE annual international meeting. Portland. OR. USA.
- **Glanville, T.D.**, H.K. Ahn, T.L. Richard, J.D. Harmon, D.L. Reynolds, and S. Akinc. 2006. Environmental Impacts of Emergency Livestock Mortality Composting – Leachate Release and Soil Contamination. ASABE Paper No. 064094. 2006 ASABE Annual International Meeting, Sponsored by ASABE, Portland Convention Center, Portland, OR, 9 –12 July 2006.
- J. Guan, B.W. Brooks, J.L. Spencer, P. Kitching, T.A. McAllister, G.D. Inglis, F.J. Larney, X. Hao, **T. Glanville**, J.Kozile, D. Reynolds, H.K. Ahn, N. Akdeniz, K. Stanford. 2006. On-site composting for bio-containment and safe disposal of infectious animal carcasses and manure in the event of a bio-terrorism attack. CRTI Summer Symposium 2006. Quebec, Canada.
- **Glanville, T.D.**, D. L. Reynolds, S. Akinc, J.D. Harmon, T.L. Richard, & H.K. Ahn. 2006. Biosecurity of Composting Process for Emergency Disposal of Livestock Mortalities. "Safe and Secure Food for Public Health and National Security". Institute of Food Safety and Security (IFSS) symposium. Ames, Iowa, USA.
- **Glanville, T.D.**, T.L. Richard, J.D. Harmon, D.L. Reynolds, H.K. Ahn, and S. Akinc. 2006. Environmental Impact & Biosecurity of Composting for Emergency Disposal of Livestock Mortalities – Final Project Report for Iowa Department of Natural Resources. March 1, 2006. Iowa State University. 71 pp.
- **Glanville, T.D.**, H.K. Ahn, T.L. Richard, J.D. Harmon, D.L. Reynolds, and S. Akinc. 2005. Environmental Impact & Biosecurity of Composting for Emergency Disposal of Livestock Mortalities– Year 3 Project Update. ASABE Paper No. 054094. 2005 ASABE Annual International Meeting, Sponsored by ASABE, Tampa Convention Center, Tampa, FL, 17 –20 July 2005.
- Ahn, H.K., T.L. Richard, **T.D. Glanville**, J.D. Harmon, D.L. Reynolds. 2005. Estimation of optimum moisture levels for biodegradation of compost bulking materials – ASABE Paper No. 054089. 2005 ASABE Annual International Meeting, Sponsored by ASABE, Tampa Convention Center, Tampa, FL, 17 –20 July 2005.

- **Glanville**, T.D. Evaluation of Composting for Emergency Disposal of Cattle Mortalities in Iowa – Performance, Environmental Impacts, & Biosecurity. Invited paper – *Symposium on Composting Mortalities & Slaughterhouse Residuals*. Sponsored by University of Maine, Maine Dept. of Agriculture, Cornell Waste Management Instit., USEPA. May 24–25, 2005 Portland, ME.
- Reynolds, D., S. Akinc, T.D. **Glanville**, J.D. Harmon, T.L. Richard, H.K. Ahn, S. Sadaka. Evaluation of Bio–security of Large Scale Composting. Conference of Research Workers in Animal Diseases (CRWAD) Chicago, IL, November 14–16, 2004.
- **Glanville**, T.D. On–Farm Carcass Composting – Methods, Environmental Impacts, & Biosecurity. Invited paper – *The Science and Policy of Carcass Disposal*. Sponsored by University of California–Davis. Putah Creek Lodge – UC Davis Campus, Davis, CA, October 6–7, 2004.
- **Glanville**, T.D., T.L. Richard, J.D. Harmon, D.L. Reynolds, H.K. Ahn, and S. Akinc. Environmental Impact & Biosecurity of Composting for Emergency Disposal of Livestock Mortalities– Year 2 Project Update. ASABE Paper No. 044069. 2004 ASABE/CSAE Annual International Meeting, Sponsored by ASABE/CSAE, Government Centre, Ottawa, Ontario, Canada, 1 – 4 August 2004.
- Harmon, J., T. **Glanville**, T. Richard, and D. Reynolds. Odor Analysis of Emergency Carcass Composting. ASABE Paper No. 044124. 2004 ASABE/CSAE Annual International Meeting, Sponsored by ASABE/CSAE, Government Centre, Ottawa, Ontario, Canada, 1 – 4 August 2004.
- Ahn, H.K., T.L. Richard, T.D. **Glanville**, J.D. Harmon, D.L. Reynolds. Laboratory determination of compost modeling parameters. 2004 ASABE/CSAE Annual International Meeting, Sponsored by ASABE/CSAE, Government Centre, Ottawa, Ontario, Canada, 1 – 4 August 2004.
- Reynolds, D. L., S. Akinc and T. **Glanville**. Biosecurity of Large–Scale Composting. Poster presentation. AAAP / AVMA annual meeting. Denver, CO. July 19 – 23, 2003.
- Reynolds, D. L., S. Akinc and T. **Glanville**. Biosecurity of Large–Scale Composting. Poster presentation. Conference of Research Workers in Animal Diseases. Chicago, IL. November 9 –11, 2003
- **Glanville**, T.D., T.L. Richard, and R.A. Persyn. Evaluating Performance of Compost Blankets. *BioCycle*. vol 44, No 5. pp 48–54. May, 2003.
- **Glanville**, T.D., T.L. Richard, J.D. Harmon, D.L. Reynolds, S.Sadaka, and S. Akinc. 2003. Environmental Impact & Biosecurity of Composting for Emergency Disposal of Livestock Mortalities. ASABE Paper No. 032262. St. Joseph, MI. ASABE.
- **Glanville**, T.D., T.L. Richard, and R.A. Persyn. Impacts of Compost Blankets on Erosion Control, Re–vegetation, & Water Quality at Highway Construction Sites

- in Iowa – Project Completion Report submitted to Iowa Dept. of Natural Resources and Iowa Dept. of Transportation, Iowa State University, April, 2003.
- **Glanville**, T.D., R.A. Persyn, and T.L. Richard. 2002. Water Quality Implications of Using Composted Organics on Highway Rights-of-Way. ASABE Paper No. 022052. St. Joseph, Mich.: ASABE.
 - Richard, T.L., R.A. Persyn, and T.D. **Glanville**. 2002. Cover Crop Production and Weed Control on Highway Right-of-Ways Using Composted Organics. ASABE Paper No. 022051. St. Joseph, Mich.: ASABE.
 - Persyn, R.A., T.D. **Glanville**, and T.L. Richard. 2002. Evaluation of Soil Erosion and Soil Erodibility Factors for Composted Organics on Highway Right-of-Ways. ASABE Meeting Paper No. 022081. St. Joseph, Mich.: ASABE.
 - **Glanville**, T.D., T.L. Richard, and R.A. Persyn. Impacts of Compost Application on Highway Construction Sites in Iowa. ASABE Paper No. 01-012076, presented at ASABE International Meeting, Sacramento Convention Center, Sacramento, CA. July 30– August 1, 2001.
 - **Glanville**, T.D. Que hacer con las mortandades en granja?, *Revista Desarrollo Porcicola*, published by Consejo Mexicano de Porcicultura d(Mexican Pork Council), A.C. Mexico City, MX, Mar–April 2001 pp 15–16, 42–44.
 - Lawlor, P.A., J.L. Baker, T.D. **Glanville**, and S.W. Melvin. Water Quality of Subsurface Drainage Collected Near a Swine Manure Lagoon. ASABE Paper No. MC01-404, presented at ASABE Mid Central Meeting, Ramada Inn, St. Joseph, MO. March 30–31, 2001.
 - **Glanville**, T.D., J.L. Baker, S.W. Melvin, and M.M. Agua. Measurement of Leakage from Earthen Waste Storage Structures in Iowa. ASABE Paper No. 00414, presented at ASABE International Meeting, Midwest Express Center, Milwaukee, WI. July 9–12, 2000.
 - Baker, J.L., T.D. **Glanville**, S.W. Melvin, and L.E. Shiers. Soil Sampling and Analysis Around Earthen Waste Storage Structures in Iowa. ASABE Paper No. 00412, presented at ASABE International Meeting, Midwest Express Center, Milwaukee, Wisconsin. July 9–12, 2000
 - **Glanville**, T.D. Impact of Livestock Burial on Shallow Groundwater Quality. ASABE Paper No. MC00-116, presented at ASABE Mid Central Meeting, Ramada Inn, St. Joseph, MO. April 28–29, 2000.
 - **Glanville**, T.D., J.L. Baker, S.W. Melvin, and M.M. Agua. 1999. Measurement of Seepage from Earthen Waste Storage Structures in Iowa. In *Earthen Waste Storage Structures in Iowa: A Study for the Iowa Legislature*. Iowa State University. pp. 38 – 63.
 - Baker, J.L., T.D. **Glanville**, S.W. Melvin, and L.E. Shiers. 1999. Soil Sampling and Analysis Around Earthen Waste Storage Structures in Iowa. In *Earthen Waste*

Storage Structures in Iowa: A Study for the Iowa Legislature. Iowa State University. pp. 64 – 114.

- **Glanville, T.D., J.L. Baker, & S.W. Melvin.** 1998. Impacts of Seepage from Earthen Waste Storage Structures. Proceedings of International Conference on Animal Production Systems and the Environment. July 19–22. College of Agriculture. Iowa State University. pp. 457 – 462.
- **Glanville, T.D.** 1998. Groundwater Impacts of On–Farm Burial of Poultry in Shallow Water Table Conditions. Proceedings of International Conference on Animal Production Systems and the Environment. July 19–22. College of Agriculture. Iowa State University. pp. 21 – 28.
- **Glanville, T.D., J.L. Baker, and J.K. Newman.** 1995. Understanding and Reducing Pesticide Contamination in Rural Wells. Iowa Groundwater Quarterly 6(3): 12–13.
- **Glanville, T.D.** June, 1995. Statewide Engineering Information Delivery Using World Wide Web and Gopher Servers. Presented at 1995 ASABE International Meeting. Chicago, IL.
- **Glanville, T.D., J.L. Baker, and J.K. Newman.** 1995. Understanding and Reducing Pesticide Contamination in Rural Wells, final report to Iowa Dept. of Agriculture and Land Stewardship. 41 pp.
- **Glanville, T.D., J.L. Baker, and J.K. Newman.** 1995. Understanding and Reducing Pesticide Contamination in Rural Wells, interim project completion report with literature review of well research in Canada and the U.S., for Iowa Dept. of Agriculture and Land Stewardship. 39 pp.
- **Glanville, T.D.** 1994. Groundwater Impacts of On–Farm Burial of Livestock in Iowa – Two Case Studies, project summary prepared in response to inquiries from Illinois Environmental Protection Agency and Illinois Farm Bureau. 22 pp.
- **Glanville, T.D.** 1993. Cold–Weather Composting of Poultry Mortalities in the Upper Midwest. Invited paper and presentation at 22nd Annual Convention of Midwest Poultry Federation, February 17–19, 1993, Minneapolis, MN. 15 pp.
- **Glanville, T.** 1992. Groundwater Impacts of On–farm Livestock Burial. Iowa Groundwater Quarterly 4(4): 21–22.

TEACHING ACTIVITIES:

Classroom Teaching

- 2011-- TSM 415, Technology Capstone, fall semester
- 2011-- TSM 416, Technology Capstone, spring semester
- 2010— AE 436/536 *Design and Evaluation of Soil and Water Monitoring Systems* (co-designed/co-taught w A. Kaleita, and U.S. Tim) 5-week sections taught by Glanville and Kaleita were significantly revised/improved for 2010.
- 2010— TSM 416, Technology Capstone, spring semester

- 2009 – TSM 415- Technology Capstone, fall semester
- 2009 – TSM 416 – Technology Capstone, spring semester
- 2008 – TSM 415- Technology Capstone, fall semester
- 2008 – AE 416 - *Senior Design*, spring semester 2008 (team taught with R. Anex).
- 2007 – AE 436X/536X *Design & Evaluation of Soil and Water Monitoring Systems* – spring semester 2007 (co-designed and team-taught with A. Kaleita & S. Tim).
- 2005-2007 –TSM 424 *Agricultural Impacts on Water Quality* - fall semesters 2005-2007.
- 2002–2004 – AST 493L–*Workshop in Agricultural Systems Technology –Water Quality*. This is a team–taught 2–day summer workshop for school teachers, college students, crop consultants, and others who have an interest in water quality. I developed and taught short lectures on water use, and basic water quality (approximately 15% of course content).
- 1998–2000 –Taught AST 425, *Impacts of Agriculture on Water Quality* for three years while another faculty member was on temporary administrative appointment. Course content was supplemented with up–to–date web–based reading materials from the U.S. Geological Survey, U.S. Environmental Protection Agency, Natural Resources Conservation Service. Lessons were modified to include specific well–defined learning objectives, and were supplemented with PowerPoint presentations and study guides which I developed and made available to students via the WWW. Examples of supplemental PowerPoint class notes and example assignments developed for AST 425 (available on the WWW) include:
 - U.S. National Water Quality Inventory (NWQI) Program by USEPA
 - National Water Quality Assessment Program by US Geological Survey
 - Comparison of NWQI and NAWQA
 - NAWQA Results – Nutrients
 - NAWQA Results – Pesticides
 - Measuring Water Quality – units of measure, estimating total pollutant quantities, mass balance
 - Drinking Water Quality Standards
 - Hydrologic Cycle – water sources, water storage, and water movement in our environment
 - The Farm Assist Program in Iowa– pollution prevention education for farmers and rural homeowners
 - Surface Water Hydrology – factors controlling contaminant movement into lakes and streams

- Ground Water – Hydrology – factors controlling water and contaminant movement into aquifers
 - Chemical Properties Affecting Losses to Surface– and Groundwater Resources
 - Wells and Their Impacts on Groundwater Quality
 - Abandoned Wells,
 - Agricultural Drainage Wells, & Sinkholes
 - Nitrogen Cycle & Nitrogen Management Practices to Reduce Water Quality Impacts
 - Livestock Waste Management
 - Soil Erosion
 - Crop Residue Management for Soil Erosion Control
- 1995 – co–developed AE 573X, *Agricultural Waste Management Systems* (now *Microbial Systems Engineering*) with three other faculty. I developed 4–week segment (approx. 25% of course content) on composting processes and systems.
 - Late 1980’s – co–developed and team–taught AE 530, *Agricultural Water Quality Engineering*, with three other ABE faculty members. I developed course materials on water use, water quality impacts, water quality standards and regulations, and water quality risk assessment (approx. 15% of course content).

Undergraduate Mentoring

- Mentored 12 undergraduate summer interns hired to assist with field research projects since year 2000.
- Advised 3 senior design teams that have worked on composting–related projects.
- In 2000–2001 funded and worked with student on undergraduate honors project and paper relating to his summer internship on erosion research project.

Graduate Student Mentoring

Table 1. Graduate Students Mentored

Year of Graduation	Name	Department	Degree Sought	Role
2011	Nguyen	Environmental Science	PhD	co-major professor
2009	Crawford	Agricultural Engineering (AST)	MS	major professor
2008	Akdeniz	Agricultural Engineering	PhD	co–major professor
2007	Dilawari	Agricultural Engineering	MS	committee

2003	Persyn	Agricultural & Civil Engineering	PhD	major professor
2003	Fridley	Statistics	PhD	committee
2001	Baker	Agricultural Engineering		committee
2001	Schwager	Animal Science	MS	committee
2000	Ensley	Toxicology – Veterinary Medicine	PhD	committee
2000	Zhang	Agricultural Engineering	MS	committee
1999 *	Huang	Horticulture	MS	committee
1997	Redla	Agricultural Engineering	MS	committee
1997	Tebben	Civil Engineering	MS	committee
1994	Newman	Agricultural Engineering	MS	major professor

* was unable to complete thesis and oral exam due to serious language deficiencies

Post-Doctoral Associates Mentored

- 2003 – 2008, Dr. H.K. Ahn – Emergency mortality composting research study
- 2002 – 03, Dr. S. Sadaka – Emergency mortality composting research study

STATE & NATIONAL EXTENSION / TECHNOLOGY TRANSFER:

Program Leadership & Coordination:

- 2008 – Program on Developing Emergency Livestock/Poultry Disposal Plans [video-taped presentation used in 75 ISU Confinement Site Manure Applicator Certification meetings in Iowa].
- 2008 – Development & dissemination of flood recovery information (radio and press releases) relating to contaminated rural water supplies
- 2002– 2005, member, Extension *Environmental Sustainability* Program Committee (IA Plan of Work # 150)
- 2000, member, Extension Drought Task Force, ISU – College of Agriculture, 2000
- 1994–98, **Extension Section Leader**, Agricultural & Biosystems Engineering (ABE)
- 1995–96, member, ISU Extension program planning committee on livestock and environment
- 1995–98, member, ISU Engineering College Outreach Task Group
- 1995, **Project coordinator** and co-developer of ABE *Livestock/Environment Electronic Outreach Project*
- 1994–present, **Project coordinator**, ABE *Extension World Wide Web Outreach Project*

- 1994–96, **Team leader**, *Livestock Industry Facilities and Environment (LIFE) project*, ABE Extension
- 1987–91, Statewide **major program coordinator**, ISU Extension Program on *Maintaining and Improving Water Quality*
- 1990–91, Statewide **major program coordinator**, ISU Extension Program on *Solid Waste Management*
- 1990–95, **State Extension Water Quality Liaison**, USDA National Water Quality Initiative
- 1990–95, **State Extension Solid Waste Liaison**, USDA National Solid Waste Initiative

Major Extension Programs

- 2002–present, *Development and Testing of Composting Procedures for Emergency Disposal of Animal Mortalities Resulting from Disease or Agro-terrorism*
 - Initiated at the request of the Iowa Department of Natural Resources (IDNR)
 - Program content based on 3–year research project sponsored by IDNR in response to Foot–and–Mouth disease outbreak in Great Britain in 2001, and subsequently on 3-year study funded by Canadian Food Inspection Agency/Canadian Research a& Technology Initiative
 - Audience includes peer researchers, extension specialists, regulators, and livestock producers throughout the world
 - Information delivery method via extensive project website and invited conference presentations
 - Web based information items include:
 - *Understanding and Troubleshooting Mortality Composting* (444 Kb, 2/08)
Presentation, 16 slides, gives an overview of the causes and preventative measures for three of the most common composting problems leachate production, odor, and slow carcass decay. Prepared for Iowa Pork Industry Center regional conferences held throughout Iowa in February, 2008.
 - *Emergency Mortality Disposal Planning* (739 Kb, 12/07)
Presentation, 26 slides, covers practical, environmental, and legal considerations associated with use of burial, incineration, composting, landfill disposal, and rendering for disposal of large-scale poultry or livestock losses caused by fire, heat stress, ventilation failure, disease, and other catastrophes. Prepared for statewide ISU Manure Applicator Certification Meetings held winter/spring 2008.
 - *Poultry and Livestock Mortality Disposal in Iowa - Frequently Asked Question's* (63 Kb, revised 11/30/07)
Bulletin, 11 pages, covers frequently-asked questions concerning on-farm burial, landfilling, incineration, rendering, on-farm composting, and state agency (Iowa DNR and Iowa Department of Agriculture & Land Stewardship) rules pertaining to these methods of poultry and livestock disposal.

- [*Emergency Livestock Disposal Planning*](#) (444 Kb, 7/31/06)
Presentation, 20 slides, discusses the importance of and procedures for establishing an emergency livestock or poultry disposal action plan that facilitates rapid, bio-secure, and environmentally sound recovery in the event of catastrophic herd or flock losses caused by fire, ventilation failure, disease, etc.
 - [*Composting for Routine Disposal of Poultry and Livestock Mortalities*](#) (1.8 Mb, 7/31/06)
Presentation, 41 slides with review questions, covers pros and cons of using composting for routine disposal of poultry and livestock mortalities. Discusses typical equipment, facilities, materials, and procedures used for bio-secure and environmentally sound on-farm composting of poultry, swine, and similarly sized species.
 - [*Understanding and Troubleshooting Mortality Composting*](#) (Presentation, 613 Kb, 7/31/06)
Presentation, 40 slides with review questions, covers fundamental factors that affect the success of on-farm mortality composting operations, and suggest strategies for avoiding typical problems such as leachate release, odor, and slow carcass decomposition.
 - [*Emergency Mortality Composting*](#) (877 Kb, 7/31/06)
Presentation, 41 slides with review questions, covers emergency scenarios that favor the use of composting, provides rules of thumb for estimating size and cover material requirements for emergency windrow composting of large quantities of any type of carcasses, or for daily (non-emergency) disposal of cattle or other large species. Based on research and practical experiences obtained during a 3-year emergency cattle mortality composting study conducted by Iowa State University for the Iowa Department of Natural Resources.
- 2000 – present, *Organics Recycling Solid Waste Management & Environmental Pollution Prevention*
 - Initiated in response to an over-supply of composted organics in Iowa and to interest in alternative means to control stormwater runoff and erosion from highway and other large construction projects
 - Initiated at request of IDNR and jointly sponsored by IDNR and Iowa Department of Transportation
 - Program content based on 3-year study of environmental impacts of applying composted organics to highway construction sites
 - Primary audience includes organics recycling industry, construction engineers, community stormwater managers, environmental regulators.
 - Primary information delivery methods via one bulletin, an **award-winning project website**, and numerous invited out-of-state conference presentations
 - 1994 – present, *Development of Electronic Outreach Programs via WWW*
 - Set up 1st departmental WWW site at ISU in 1994 to facilitate delivery of ABE extension bulletins, PowerPoint presentations, and web-based content to extension field staff, producers, and the news media
 - 1992– present, *Composting Alternative for Environmentally Sound Disposal of Routine Livestock & Poultry Mortalities*

- Initiated in response to producer concerns regarding increased costs of rendering and potential for biosecurity and environmental problems caused by unregulated on-farm carcass disposal
 - Jointly sponsored by IDNR and Leopold Center for Sustainable Agriculture
 - Program content based on 3-year poultry mortality composting demonstration project and 5-year swine mortality composting demonstration.
 - Primary audience includes poultry and livestock producers, veterinarians, extension specialists, and environmental regulators
 - Primary information delivery methods include on-farm demonstrations (9), bulletins (3), and **award-winning swine mortality composting website** (set up in 2001)
- 1977 – present, *Design and Protection of Small Water Systems*
 - Initiated in response to relatively high proportion of water supplies serving farmsteads, acreages, rural subdivisions, and small communities that exceed drinking water standards for nitrate and bacteria.
 - Program content based on basic engineering and public health principles and on 2-year study of pesticides in rural wells
 - Primary audience includes homeowners, livestock producers, county environmental health officials, well drillers, and point-of-use water treatment equipment vendors.
 - Primary information delivery methods via water-related bulletins (17) that are available in print OR can be downloadable via a webpage that I developed

Invited Presentations–by Topic (past 10 years, does not include meetings sponsored by ISU Extension Service)

Design, Construction, Operation of Emergency Composting Systems for Disposal of Livestock Mortalities

- 2009, *Leachate Potential: A Comparison Between Carcass Compost and Carcass Burial*, 25 minute invited presentation (December 10th, 2010) as part of a national webinar series of internet presentations on poultry and livestock disposal, sponsored by Cornell Waste Management Institute, and University of Maine
- 2009, *Livestock Mortality Disposal Options*, videotaped 50-minute presentation for permanent use in An Sci 443/543 “Environmental Management of Livestock,” new distance education course.
- 2009, *Composting Dairy Cattle Mortalities* (April 20), Calmar, IA, sponsored by N.E. Iowa Community College

- 2009, *Options for Swine Mortality Disposal*, Iowa Pork Congress (Jan. 29), Des Moines, IA sponsored by Iowa Pork Producers Association
- 2008, *Emergency Livestock Mortality Composting*, Maine Compost School (May 14-15), University of Maine
- 2008, *Troubleshooting Swine Mortality Composting Operations*, presented @ 5 regional producer meetings sponsored by Iowa Pork Industry Center
- 2007, Invited speaker, *Using Compost to Improve Stormwater Management and Erosion Control On Roadsides*, Sept. 13, 2007. Retzler Nature Center, Waukesha, WI, sponsored by USEPA Region V.
- 2007, Invited speaker, *Pros and Cons of Using Composting for Disposal of Routine Poultry and Livestock Mortalities*, August 29, 2007. ISU Manure Management Clinic.
- 2007, Invited Panelist - *State of California Livestock Mortality Composting Science & Policy Conference*. June 27-28, 2007. University of California-Davis, sponsored by National Center for Foreign Animal and Zoonotic Disease Defense.
- 2007, *Emergency and Routine Disposal of Turkeys*, at 2007 Turkey Health & Management Meetings, sponsored by Iowa Turkey Federation, February 20 (Washington, IA) and March 1 (Ft. Dodge, IA), 2007.
- 2007, Featured speaker (4 presentations – “Emergency Livestock Disposal Planning,” “Emergency Mortality Composting,” “Composting For Routine Disposal of Poultry & Livestock Mortalities,” and “Understanding & Troubleshooting Mortality Composting”) at Kansas Livestock Facility Composting Conference, sponsored by Kansas Dept. of Health and Environment, Scott City, KS (Feb 13) and Manhattan, KS (Feb 15), 2007.
- 2006, *Environmental Impacts and Biosecurity of Composting for Emergency Disposal of Livestock Mortalities*. National Carcass Disposal Symposium sponsored by USDA, USEPA, University of Maine, Iowa State University. Beltsville, MD. December 5-7, 2006.
- 2006, *Composting vs. Burial Methods*. at Emergency Management of Mass Animal Mortality- A Science and Policy Workshop for Carcass Meta-Disposal in Texas, sponsored by National Center for Foreign Animal and Zoonotic Disease Defense, Texas A&M University, Austin, TX. November 13-14, 2007.
- 2006, *On-farm Disposal of Swine Mortalities*, National Swine Producers Conference, sponsored by Mexican Pork Producers Federation, Ixtapa, Mexico. September 20-23, 2006.
- 2006, *Methods for Routine and Emergency Mortality Disposal*, Livestock Mortality Disposal Roundtable, sponsored by USEPA Region 7, Kansas City, KS. July 25, 2006.

- 2006, *Emergency Mortality Composting Research Methods and Results*. Canadian Food Inspection Agency Internal Research Conference. Ottawa, Canada. June 13, 2006.
- 2006, *On-site Composting for Biocontainment & Safe Disposal of Infectious Animal Carcasses and Manure in the Event of a Bioterrorism Attack*. CRTI Summer Symposium, sponsored by the Chemical, Biological, Radiological, and Nuclear Research and Technology Initiative. Ottawa, Canada. June 13-15, 2006.
- 2006, *Biosecurity of Composting Process for Emergency Disposal of Livestock Mortalities, Safe & Secure Food for Public Health and National Security*, sponsored by Institute for Food Safety & Security, Iowa State University, Ames IA. April 19, 2006.
- 2005, *Emergency Livestock Mortality Disposal, Avian Influenza: Animal & Agricultural Impact*, sponsored by Institute for Food Safety & Security. Iowa State University, Ames, IA. November 17, 2005.
- 2005, *Emergency Mortality Disposal in Iowa: Evaluating Options & Specific Guidelines for Emergency Composting*. Professional Managers Conference, sponsored by National Pork Board. Cedar Rapids, IA. November 16, 2005.
- 2005, *Composting Livestock & Poultry Wastes*, College of Veterinary Medicine Building Planning Committee, Iowa State University, Ames, IA. October 12, 2005.
- 2005, *Emergency Livestock Mortality Composting, Agribusiness Nutrient Management Workshop*, sponsored by ISU Agribusiness Management Program. Ames, IA. August 25, 2005.
- 2005, *Iowa Carcass Composting Research: Environmental Impact and Pathogen Survival*, Symposium on Composting Mortalities & Slaughterhouse Residuals, sponsored by Maine Dept. of Agriculture, Cornell Waste Management Institute, & BioCycle Magazine. Portland, ME. May 24–25, 2005.
- 2004, *Methods, Environmental Impacts, & Biosecurity*, Conference on the Science and Policy of Carcass Disposal. Sponsored by University of California–Davis. Putah Creek Lodge – UC Davis Campus, Davis, CA, October 6–7, 2004.
- 2004, *Cattle Mortality Composting, BSE Update – Factors You Need to Know – National Satellite Television Network Teleconference*, sponsored by Iowa Beef Center. January 7, 2004.
- 2003, *Environmental Impact & Biosecurity of Composting for Emergency Disposal of Livestock Mortalities*. IDNR Statewide Regional Staff training workshop. Des Moines, IA. December 1, 2003.
- 2003, *Environmental Impact & Biosecurity of Composting for Emergency Disposal of Livestock Mortalities*. 2003 ASABE International Summer Meeting, Las Vegas, NV. July 31, 2003.

- 2003, *Environmental Impact & Biosecurity of Composting for Emergency Disposal of Livestock Mortalities*. National Pork Board. March 4, 2003.
- 2002, *Foot –and –Mouth Disease Transmission and Control*, ASABE Agricultural Engineering Technology Conference, Kansas City, MO February 21, 2002.

Organics Recycling & Environmental Pollution Prevention

- 2007, Featured speaker, *Using Compost to Improve Stormwater Management and Erosion Control on Roadsides-Experts Roundtable and Field Demonstration*, Sponsored by USEPA Region V and Associated Recyclers of Wisconsin, Waukesha, WI, September 13, 2007.
- 2005, Invited speaker, *Effectiveness of Composted Organics in Controlling Construction Site Runoff and Erosion*, 24th Annual Congress & Exposition – National Recycling Coalition, Minneapolis, MN. August 29, 2005.
- 2005, *Manure and Mortality Composting Techniques*, On–farm Composting Workshop, sponsored by NRCS and Northeast Iowa Community College, Calmar, IA. March 22, 2005.
- 2004, *Environmental Impacts of Compost Applications on Construction Sites*, BioCycle National Renewable Energy Conference, Des Moines, IA. November 11, 2004.
- 2004, Erosion & Sediment Control Session, Transportation Conference, American Society of Civil Engineers, Ames, IA. November 19, 2004.
- 2004, *Environmentally Preferable Practices Workshop*, sponsored by Dakota County & Dakota Valley Recycling Assoc., Dakota County, MN. January 25, 2004.
- 2004, *Using Compost for a Safer Environment*, Minnesota Pollution Prevention Conference, Minneapolis, MN. February 25, 2005.
- 2004, *Effectiveness of Compost Application for Stormwater and Erosion Control*, Iowa Association of Municipal Utilities Storm Water Workshop, Des Moines, IA. March 9, 2005.
- 2003, *Environmental Effects of Applying Composted Organics on New Highway Embankments – Erosion, Water Quality, and Vegetation*. Statewide Annual Conference – Recycling Association of Minnesota. Minneapolis, MN. November 5, 2003.
- 2003, *Environmental Effects of Applying Composted Organics on Construction Sites*. Staff training workshop, Minnesota Pollution Control Agency. St. Paul, MN. November 4, 2003.
- 2003, *Compost Impact on Water Quality and Soil Erosion*. 33rd Annual BioCycle National Conference, Denver, CO, May 5–7, 2003.
- 1998, *Potential Impacts of Earthen Basins on Groundwater Quality*, Iowa Ground Water Association.

Composting for Routine Disposal of Livestock Mortalities

- 2005, *Cattle Mortality Composting*, Mid–Valley Dairy Days– Merced County, sponsored by University of California Extension. Merced, CA. February 17, 2005.

- 2005, *Cattle Mortality Composting*, Mid-Valley Dairy Days- Tulare County, sponsored by University of California Extension. Tulare, CA. February 16, 2005.
- 2004, *Carcass-to-Compost*, Regional Livestock Production Extension Program, sponsored by South Dakota State University, Brookings, S.D. March 30, 2004.
- 2003, *Impacts of Livestock Burial on Shallow Groundwater Quality*. IDNR Statewide Regional Staff training workshop, Des Moines, IA. December 1, 2003.
- 2001, *Overview of Livestock Mortality Composting*, Kansas Livestock Association Convention, Wichita, KS. November 29, 2001.
- 2002, *Swine Mortality Composting Procedures & Equipment*, series of 3 presentations for Cenex Land-O-Lakes, March-April, 2002.
- 2001, *Management of Swine Mortalities in Iowa – Results of 2001 Producer Survey*, for Iowa Pork Industry Center videoconference, September 10, 2001.
- 2000, *Swine Mortality Management*, Consejo Mexicano de Porcicultura (Mexican Pork Council 1st International Symposium. Guadalajara, Mexico. October 9-10, 2000.

Design & Protection of Small Water Systems

- 2001, *An Overview of Well Assessment and Rehabilitation*, Water Systems Council, Iowa City, IA., March 30, 2001.
- 1999, *ISU ABE Outreach efforts via WWW*, at ASABE Midcentral meeting in St. Joseph, Mo.
- 1998, *Water quality and water systems for dairy operations* (delivered via Iowa Communications Network as part of ISU Dairy Short Course offered by Animal Science department).

Electronic Outreach Programs

Project-specific world wide web sites are one of the most efficient ways to deliver timely and useful information directly to the offices and homes of those who need it. They facilitate rapid delivery of printed bulletins and training materials in presentation format. They are easily updated without the need to recall or reprint outdated materials, and they can take visitors on “virtual visits” to field research sites, demonstration projects, or laboratories. I set up the first departmental (<http://www.abe.iastate.edu/>) web site for dissemination of extension materials (actually a “gopher” server) on the ISU campus in 1994 and have actively used the web to deliver a broad variety of information and training materials since that time. I currently maintain the following project-specific websites.

- *Emergency Livestock Mortality Composting in Iowa* (<http://www.abe.iastate.edu/cattlecomposting/>) describing the methods and

results of a 3–year study of the environmental impacts and biosecurity of composting large quantities of livestock that have been lost through fire, ventilation failures, or disease (research sponsored by Iowa Dept. of Natural Resources and USDA–NRI);

- *Using Compost for a Safer Environment* (<http://www.eng.iastate.edu/compost/>) featuring the methods and results of a 3–year study of the impacts on soil erosion of applying composted organics to new roadway construction sites (research sponsored by Iowa Dept. of Natural Resources and Iowa Dept. of Transportation) (**ASABE National Educational Aides Competition winner in 2003**); and
- *disSolving Swine Mortality Problems*, (<http://www.abe.iastate.edu/pigsgone/>) provides livestock producers with a virtual visit to two swine mortality composting demonstration projects in Iowa. It also provides background information on the science of composting, design guidelines for planning a bin-type composting system for any size operation, and a downloadable bulletin on composting procedures (project funded by the Leopold Center for Sustainable Agriculture) (**ASABE National Educational Aides Competition winner in 2001**).

Extension Print Publications

- **Glanville**, Thomas D. 2009. *Spring – A Good Time to Test Well Water*. ISU Acreage Living Newsletter. May 2009.
- **Glanville**, Thomas D. 2009. *Planning Considerations for Livestock and Poultry Mortality Disposal: Part 4 - Emergency Planning*. ISU Odor & Nutrient Management Newsletter. Spring 2009.
- **Glanville**, Thomas D. 2008. *Planning Considerations for Livestock and Poultry Mortality Disposal: Part 3 - Composting*. ISU Odor & Nutrient Management Newsletter. Winter 2008.
- **Glanville**, Thomas D. 2008. *Planning Considerations for Livestock & Poultry Mortality Disposal: Part 2 - Incineration and Landfilling*. ISU Odor & Nutrient Management Newsletter. Fall 2008.
- **Glanville**, Thomas D. 2008. *Protect Rural Wells from Flooding*. ISU Acreage Living Newsletter. October, 2008.
- **Glanville**, Thomas D. 2008. *Planning Considerations for Livestock & Poultry Mortality Disposal by On-farm Burial*. ISU Odor & Nutrient Management Newsletter. Summer 2008.
- **Glanville**, Thomas D. 2008. **Glanville**, Thomas D. 2008. *Protect Rural Wells from Flooding*. ISU Acreage Living Newsletter. April, 2008.
- **Glanville**, Thomas D. 2008. *Cleaning Up Flooded Wells*. ISU Acreage Living Newsletter. May 2008.

- **Glanville, Thomas D.** 2004. Draft Guidelines for Emergency Composting of Cattle Mortalities downloadable from project website at <http://www.abe.iastate.edu/cattlecomposting/> .
- **Glanville, Thomas D., T.L. Richard, and R.A. Persyn.** 2004. *Using Compost to Control Construction Site Runoff and Erosion.* Published and distributed by Waste Management Assistance Div., Iowa Dept. of Natural Resources.
- **Glanville, Thomas D.** 2002. *Composting Swine Mortalities in Iowa.* Pm 1917, Iowa State University, Ames, IA.
- **Glanville, Thomas D.** 1999 (revised at request of Ia. Dept. of Natural Resources to cover new State composting regulations. *Composting dead livestock: A new solution to an old problem.* SA-8. Leopold Center for Sustainable Agriculture, Iowa State University, Ames, IA.
- **Glanville, Thomas D.** 1996. *Agricultural Water Quality Improvements: Rural Sewage Treatment and Disposal.* (written for Iowa Dept. of Agriculture & Land Stewardship for use at public information meetings on agricultural drainage wells).
- **Glanville, Thomas D.** 1995. *Composting dead livestock: A new solution to an old problem.* SA-8. Leopold Center for Sustainable Agriculture, Iowa State University, Ames, IA.
- **Glanville, Thomas D.** 1994. *Abandoned wells pose safety hazards.* Pm-1563f (“Safe Farm” series). Iowa State University, Ames, IA.
- **Glanville, Thomas D.** 1994. *Make sure drinking water is safe.* Pm-1563g (“Safe Farm” series). Iowa State University, Ames, IA.
- **Glanville, Thomas D. and Shawn Shouse.** 1994. *Repairing Bacterially Contaminated Wells.* AEN-155. Iowa State University, Ames, IA.
- **Glanville, Thomas D.** 1994. *Diagnosing and Solving Common Water-Quality Problems.* AEN-152. Iowa State University, Ames, IA.
- **Glanville, Thomas D.** 1993. *Good Wells for Safe Water* Pm-840 revised. Iowa State University, Ames, IA.
- **Glanville, Thomas D.** 1992. *Successfully Plugging Your Abandoned Well.* Pm-1328 revised. Iowa State University, Ames, IA.
- **Glanville, Thomas D.** 1989. *Dollars Down the Drain: Saving Water, Energy, and Money in the Home.* Pm-1089. Iowa State University, Ames, IA.
- **Glanville, Thomas D.** 1989. *Abandoned Wells: Open Threat to Your Health and Safety.* Pm-1334h. Iowa State University, Ames, IA.
- **Glanville, Thomas D.** 1988. *Sampling Your Drinking Water.* Pm-1335. Iowa State University, Ames, Iowa.
- **Glanville, Thomas D.** 1988. *Is Your Drinking Water Safe?.* Pm-1334i. Iowa State University. Ames, Iowa.

- **Glanville**, Thomas D. 1988. *Coping With Contaminated Wells*. Pm-1329. Iowa State University, Ames, Iowa.
- **Glanville**, Thomas D. 1988. *Plugging Abandoned Wells*. Pm-1328. Iowa State University, Ames, Iowa.
- **Glanville**, Thomas D. 1988. *Shock-chlorinating Small Water Systems*. Pm-899 revised. Iowa State University, Ames, Iowa.

Video Tapes

- Shouse, Shawn and Thomas D. **Glanville**. May 1994. *Well Reconstruction and Repair*. (8 minutes)
- **Glanville**, Thomas D. 1991. *Quality Water*. (Series of six video tapes ...each approximately 18 minutes in length on causes, concerns, and prevention of water system pollution by Coliform Bacteria; Nitrate; Hardness; Sulfur; Iron; and Manmade Chemicals. **ASABE Blue Ribbon Award Winner in 1992**.)
- **Glanville**, Thomas D. and USDA Soil Conservation Service. 1990. *How to Plug an Abandoned Well*. (10 minutes).

Slide/Tape Presentations

- **Glanville**, Thomas D. and Donald Wishart. 1990. *Plugging Abandoned Wells*. 18-minute slide/tape presentation produced for Iowa Dept. of Agriculture and Land Stewardship. Iowa State University, Ames, IA.

Multimedia (“Power Point”) Teaching Presentations (Distributed via WWW)

- **Glanville**, Thomas D. 1996. *Frequently-asked Questions About Water Quality*
- **Glanville**, Thomas D. 1995. *Plugging Abandoned Wells*
- **Glanville**, Thomas D. 1995. *Well Assessment & Repair*
- **Glanville**, Thomas D. 1995. *Composting Agricultural Wastes*
- **Glanville**, Thomas D. 1995. *History & Development of Drinking Water Standards in the U.S.*

SERVICE:

Professional / Societies

Calendar Year(s)	Committee Name	Responsibility
2004–present	Editorial Board, <i>Journal of Compost Science & Utilization</i>	Member
2004–2008	Chairman, ASABE National Standards Development Committee, S-585, Standards for Poultry/Livestock Mortality Composting	Chair
2004–05	Nominations Committee, Iowa Section ASABE	Chair

Calendar Year(s)	Committee Name	Responsibility
2003-04	Iowa Section ASABE	Chair
2002-03	Programs, Iowa Section ASABE	Chair
2002-05	SW 22 – Erosion Control Committee, ASABE	Member
1989-90	Board of Directors, Iowa Groundwater Association	Member
1989	Program Committee – Fifth National Domestic Water Quality Symposium	Program Chairman
1988-89	President, Iowa Groundwater Association	President
1988-89	Rural Water Supplies Committee (SW-214), ASABE	Chairman
1987-88	Vice President, Iowa Groundwater Association	Vice-President
1986-88	Rural Water Supplies Committee (SW-214)	Vice-chair

National/Regional

Calendar Year(s)	Committee Name	Responsibility
2011	4 th International Symposium on Management of Animal Carcasses, Tissue, and Related Byproducts (scheduled May, 2012)	Member of Steering and Planning Committees, Co-chair of white paper committee
2009	3 rd International Symposium on Management of Animal Carcasses, Tissue, and Related Byproducts	Chair of program development, and developer/editor of electronic symposium proceedings posted at: http://www.extension.umn.edu/ByproductsSymposium09/proceedings/default.htm
2009	3 rd International Symposium on Management of Animal Carcasses, Tissue, and Related Byproducts	Steering Committee
2009	3 rd International Symposium on Management of Animal Carcasses, Tissue, and Related Byproducts	General Planning Committee
2008	3 rd International Symposium on Management of Animal Carcasses, Tissue, and Related Byproducts	Steering Committee, Chair of call for papers, & Chair of conference proceedings
2007-08	Author committee, Issue Paper on <i>Swine Carcass Disposal Options for Routine and Catastrophic Mortality</i> , Council of Agricultural Science & Technology	Invited contributing author for sections on composting and burial
2006	2 nd National Conference on Carcass Disposal	Steering Committee
2006-present	USDA-Animal Plant Health Inspection Service (APHIS), National Avian Influenza Carcass Disposal Working Group	Member
2004	Planning committee, <i>Midwest Composting Workshop</i>	Member
2002-03	Project Advisory Board, AASHTO Specifications for Compost Use	Member
2001	USDA National Integrated Research and Extension Water Quality Project Review Panel	Member
2000-01	MWPS <i>Private Water System Handbook</i> revision steering committee	Co-chair
2000-01	National Center for Manure and Animal Waste Management – reviewed Center “white paper” development committee on <i>Treatment Lagoons for Animal Agriculture</i> .	Member

Calendar Year(s)	Committee Name	Responsibility
1999	MWPS committee to update <i>Animal Waste Management Handbook</i>	Member
1998	Planning committee, North Central Region Extension Agricultural Engineers meeting	Member
1995	Midwest Plan Service – Manager Search Committee	Member

State/Community

Calendar Year(s)	Committee Name	Responsibility
2003–09	Consultant to IDNR state Foreign Animal Disease – animal mortality disposal committee	Member
2000–02	Iowa Organics Recycling Council – advisory board sponsored by IDNR	Member
1999	Planning committee, <i>On-Farm Composting Workshop</i> , Iowa Recycling Assoc.	Member
1999	Review and advisory committee for "Farm Assist" publications sponsored by Iowa Farm Bureau and written by Agren, Inc.	Member
1998–99	"Healthy Iowans 2010" project sponsored by Iowa Department of Public Health	Member
1998–2000	IDNR Solid Waste Financial Assistance Program Advisory Committee	Member
1993–95	City of Ames Flood Task Force	Member
1996–99	State Wellhead Protection Program Advisory Panel, IDNR	Member
1996–2001	State of Iowa Composting Advisory Committee, IDNR	Member
1990	Faculty Search Committee – Soil and Water Faculty Position	Member

University

Calendar Year(s)	Committee Name	Responsibility
2004	ISU proposal development committee for National Center on Foreign Animal Disease Prevention & Emergency Response (Sponsored by U.S. Dept. of Homeland Security)	Chair of subcommittee on animal mortality disposal and emergency farm disinfection
2003–04	ISU Computer Advisory Committee (CAC)	Member
2001–04	Gamma Sigma Delta –Alumni Membership & Award of Merit Committee	Member
2002–04	Extension Environmental Sustainability Program Committee (POW 150)	Member
2002	ABE departmental representative, Extension search committee for Central Iowa Extension Field Engineer	Member
2001–02	Multi-college team (veterinary medicine, agriculture, engineering, extension administration) to develop research proposal on emergency disposal of animals infected with foot-and-mouth disease as requested by Iowa Dept. of Natural Resources	Chair
1996–98	Extension / Outreach Advisory Committee	Member
1995–99	Extension program committee on livestock and environment	Member

Calendar Year(s)	Committee Name	Responsibility
1992-96	Program development — Extension base committee on resource management	Member
1991	Search committee for Statewide MSEA coordinator	Chair
1991	Search committee for Regional MSEA coordinator	Member
1987-91	Program development committee "Maintaining & Improving Water Quality" (ISU Extension major program IA04)	Chair
1990	Solid Waste Program development committee	Co-chair
1990	Statewide Solid Waste In-service Training program planning committee	Chair
1990	Water Quality In-service Training program planning committee	Chair

College

Calendar Year(s)	Committee Name	Responsibility
2010	College of Engineering Promotion & Tenure Review	Member
2009	College of Engineering Scholarship Committee	Member
2002-present	College of Engineering Professional Development Committee	Member
2005-08	College of Agriculture Composting Committee / New Dairy Farm Planning Committee	Member
2001-04	College of Agriculture Technology Advancement Committee	Member
2001-02	ABE/College of Agriculture Enhancement Proposal Development Committee	Chair
2000	College of Agriculture Drought Task Force	Member
1995-99	Engineering College Outreach Task Group	Member
1994-95	Engineering College Extension Committee	Member

Departmental

Calendar Year(s)	Committee Name	Responsibility
2010-11	ABE Promotion & Tenure Review Committee	Member (2010), Chair (2011)
2007-2011	ABE Scholarship Committee	Chair
2008-present	AE Research Center	Member
2005-06	Agricultural Engineering Curriculum Committee	Member
2009-10- 2008-09 2005-06 2004-05 2002-03 1998-02 1996-97	Awards Committee Awards Committee (prior to 2001 called Awards/Faculty Development Committee)	Member Vice-chair Chair Member Chair Member
1995-2006	Computer & Educational Aides	Member
2002-06	Departmental Social	Member
1994-2004	ABE Departmental Web Site Development & Maintenance	Chair
2004-05	Biological Engineering Curriculum	Member

Calendar Year(s)	Committee Name	Responsibility
2004-05 2002-03 1998-02	Graduate Programs Committee	Member Vice-chair Member
2003	CSREES Review Prep & Reporting subcommittee / Environmental Stewardship Focus Group	
2001-present	Environmental Stewardship Engineering Focus Group	Member
2003	Spring 2003 In-service Training Committee, ABE Extension Field Specialists	Chair
2003	Search Committee – Extension Engineer–Water Resources	Member
1999	ABE Extension In–Service Training Committee	Chair
1998-01	ABE Development Committee	Chairman
1996-97	ABE Development Committee	Chairman
1994-95	ABE Facilities	Member
1994-98	ABE Extension Section	Section leader
1994-98	Departmental Section Leader’s Advisory Committee to DEO	Member
1989-96	Computer & Educational Aids	Member
1989-94	Graduate Programs	Member
1993	Faculty Search Committee – Animal Waste Management Position	Member
1990	Faculty Search Committee – Soil and Water Faculty Position	Member
1989-90	Promotion & Tenure Committee	Member
1989-90	Areas of Excellence Committee	Member
1988	Farm Safety Committee	Member
1988	Radio & Press Committee	Member
1988	Continuing Education Committee	Member