Systematic Review of Swine Euthanasia Methods and Welfare Measures Reported

Christa Irwin a, Gabriel Young a, Suzanne T. Millman a b c, Scanlon Daniels d, Sherrie Niekamp e & Alex Ramirez a

a Department of Veterinary Diagnostic and Production Animal Medicine, Iowa State University, Ames
b Department of Biomedical Sciences, Iowa State University, Ames
c Department of Population Medicine, Ontario Veterinary College, University of Guelph, Guelph, Ontario, Canada
d Circle H Animal Health, LLC, Dalhart, Texas
e National Pork Board, Clive, Iowa

Published online: 24 Mar 2009.

To cite this article: Christa Irwin, Gabriel Young, Suzanne T. Millman, Scanlon Daniels, Sherrie Niekamp & Alex Ramirez (2009) Systematic Review of Swine Euthanasia Methods and Welfare Measures Reported, Journal of Applied Animal Welfare Science, 12:2, 151-152, DOI: 10.1080/10888700902720318

To link to this article: http://dx.doi.org/10.1080/10888700902720318
(p > .05); however, the amount of time at the feeder increased in all animals by day until Day +5 of the trial (p < .0001).

In conclusion, in these small groups of young swine in a stable social hierarchy, the amount of time spent performing various activities did not appear to alter with a low dose of Salmonella. The welfare of these animals may not be compromised during nonsevere Salmonella infection.

Systematic Review of Swine Euthanasia Methods and Welfare Measures Reported

Christa Irwin,1 Gabriel Young,1 Suzanne T. Millman,1,2,3 Scanlon Daniels,4 Sherrie Niekamp,5 and Alex Ramirez1

1Department of Veterinary Diagnostic and Production Animal Medicine, Iowa State University, Ames
2Department of Biomedical Sciences, Iowa State University, Ames
3Department of Population Medicine, Ontario Veterinary College, University of Guelph, Guelph, Ontario, Canada
4Circle H Animal Health, LLC, Dalhart, Texas
5National Pork Board, Clive, Iowa

This topic reviews the process used to gather, screen for relevance, and assess the quality of current literature regarding published methods of swine euthanasia as well as the summary of the results of the data analysis, including a description of the welfare measures included in papers describing euthanasia. More than 4,500 citations have been collected using terms for “euthanasia,” “slaughter methods,” and “swine”; preliminary screening removed articles that were either not relevant to the topic of swine or euthanasia/slaughter methods or not in English.

The second level of screening segregates primary research articles from editorials/opinions, surveys, or other narrative reviews. Only primary research is used for the final quality assessment review and analysis, but review papers are used to check the thoroughness of the reference list. The final set of literature evaluates and compares measurements of pain and aversion, the achievement of death, and other physiologic parameters described in the euthanasia paper. The
intent of this research is to provide this scientific body of literature to swine veterinarians and the swine industry as well as identify areas of opportunity where more research is needed. Further, the intent is to highlight areas where reporting is deficient or incomplete and improve the quality of reporting of papers describing euthanasia.

Characterization of Lesions in U.S. Cull Sows

Lori Layman,1 Mark Knauer,2 Ken J. Stalder,2 Locke A. Karriker,1 James McKean,1 Timo Serenius,2 Tom Baas,2 and Colin Johnson2

1Veterinary Diagnostic and Production Animal Medicine Department, Iowa State University, Ames
2Animal Science Department, Iowa State University, Ames

Physical and reproductive conditions of 3,158 cull sows from 2 U.S. Midwestern harvest facilities were assessed. Body condition, feet, shoulders, teeth, lungs, and reproductive tracts were visually evaluated for gross lesions at harvest. Based on the observations of this study, body condition score (BCS) was associated with several abnormal conditions of sows. Foot-related lesions (overgrown toes, foot pad lesions) represented the most frequently documented lesions.

Temporal associations of the interactions between lesions and BCS are unknown. Even though causal relations were not established by this study, the strong associations observed suggest that sows who do not respond to increased feeding with improved BCS could reasonably be expected to have additional lesions that may impact performance and welfare. On-farm management practices may be related to 1 or more lesions (including foot lesions) that had a high prevalence in this study.

Farm management practices and nonhuman animal welfare could not be evaluated with this study so no extrapolation can be given to the type of animal housing or the ante-mortem behavior of these sows.

Correspondence should be sent to Lori Layman, Veterinary Diagnostic and Production Animal Medicine Department, Iowa State University, 1720 Veterinary Medicine, 1600 South 16th Street, Ames, IA 50011. Email: llayman@iastate.edu