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Profession Experience

University of Delaware, Department of Animal and Food Sciences

Instructor , 2002 to Present

Manager, 1996 to 2002

Research Associate III, 1986 to 1996

Research Associate II, 1979 to 1986

Sterwin Laboratories, Millsboro, Delaware

Laboratory Manager 1978

Education

University of Delaware, Newark, Delaware, M.S., Animal Science, 1976-1978

Thomas Jefferson University, Philadelphia, Pennsylvania, 1975-1976

University of Delaware, Newark, Delaware, B.S., Animal Science, 1971-1975

Areas of research include applied poultry research: emergency poultry disease response including depopulation of poultry, composting, decontamination/disinfection of poultry pathogens, broiler lighting and management.

Grant Support

2013 – 2015: DHS: Application of Sequential Integrated Depopulation and Disinfection for Emergency Animal Disease Response. E.R Benson, **R.L. Alphin**, and M. Myers. \$910,330.

Evaluation of ChickMaster Electrochemical Water to Inactivate Low Pathogenicity Avian Influenza Virus (LPAIV) and Newcastle Disease Virus (NDV) (\$9,440, ChickMaster, 11/2012 – 2/2013, **R.L. Alphin** and E.R. Benson)

Evaluation of containerized foam depopulation of layer hens and mass emergency foam as a disinfectant carrier (\$90,500, USDA VS, 2012 – 2013, E.R. Benson, **R.L. Alphin**, and R.D. Joerger). Project funded annually since 2007.

2012 – 2013: USDA NVS: Scope of Work for the University of Delaware to provide Emergency Response and Foam Depopulation Training and Testing for 3-D contractors. E.R Benson and **R.L. Alphin**. \$59,052.

2012 – 2013: USPEA: New Lighting Technologies for Poultry Housing. **E.R. Benson**, R.L. Alphin, H. Li, and C. Schmidt. \$43,254.

2011-2012: USDA AFRI Foundational: Development of A Quantitative Electroencephalography Test As An Indicator Of Assessment of Broiler And Layer Chicken Welfare Status During Stressful Conditions During Environmental Stress Depopulation. **E.R. Benson**, H. Xin, M.Persia, R.L. Alphin, and A.L. Johnson. \$238,500.

Integrated Development and Distribution of Catastrophic Poultry Emergency Procedures (\$169,402, USDA AICAP, 2008-2010, E.R. Benson, **R.L. Alphin**, and G.W. Malone)

Inactivation of Avian Influenza using Common Soaps and Disinfectants (\$45,000, USDA APHIS, 06/01/2006 – 12/31/2007, **R.L. Alphin** and E.R. Benson).

Environmental Stability of AIV and Practical Methods for Viral Inactivation on Poultry Premises (\$163,305, USDA AI CAP, 2005 – 2007, **R.L. Alphin**, E.R. Benson, L. Carr, G.W. Malone and M. Salem).

Selected Recent Publications

M. P. Caputo, E. R. Benson, E. M. Pritchett, D. P. Hougentogler, P. Jain, C. Patil, A. L. Johnson, and **R. L. Alphin**. 2012. Comparison of water-based foam and carbon dioxide gas mass emergency depopulation of White Pekin Ducks. *Poultry Science*. 91:3057-3064; doi:10.3382/ps.2012-02514.

E.R. Benson, **R.L. Alphin**, M.K. Rankin, M.P. Caputo, and A.L. Johnson. 2012. EEG Based Methodology For Determining Unconsciousness During Depopulation. *Avian Diseases*. 56(4s1): 884-890.

M. P. Caputo, **R. L. Alphin**, E. M. Pritchett, D. P. Hougentogler, A. L. Johnson, E. R. Benson, C. Patil. 2013. Evaluation of the diving reflex in response to non-terminal submersion of White Pekin ducks in water-based foam. *Poultry Science*. 92:412-417; doi:10.3382/ps.2012-02513

K. Murray, **R. L. Alphin** and B. S. Ladman. 2012. HVAC Containment Re-verification in a BSL-3 Facility to Meet Select Agent Program. ABSA 55th Annual Biological Safety Conf., Orlando, FL. 10/19-24/12.

E.R. Benson, **R.L. Alphin**, M.K. Rankin, M.P. Caputo. 2012. Mass Emergency Foam Depopulation of Poultry. *Avian Diseases*. 56(4s1): 891-896.

E.R. Benson, **R.L. Alphin**, M.K. Rankin, M.P. Caputo, C.A. Kinney, A.L. Johnson. 2012. Evaluation of EEG Based Determination of Unconsciousness vs. Loss of Posture in Broilers. *Research in Veterinary Science*. 93(2):960-964. <http://dx.doi.org/10.1016/j.rvsc.2011.12.008>.

R.L. Alphin, C. Ciaverelli, D.P. Hougentogler, K.J. Johnson, M.K. Rankin, and E.R. Benson. 2010. Post Outbreak Disinfection of Mobile Equipment. *Avian Diseases*. 54:772–776

R.L. Alphin, M.K. Rankin, K.J. Johnson, and E.R. Benson. 2010. Comparison of Water-Based Foam and Inert-Gas Mass Emergency Depopulation Methods. *Avian Diseases*. 54:757–762.

R.L. Alphin, K.J. Johnson, B.S. Ladman, and E.R. Benson. 2009. Inactivation of Avian Influenza Virus Using Five Common Chemicals and One Detergent. *Poultry Science*. 88: 1181-1185.

E.R. Benson, **R.L. Alphin**, M.D. Dawson, and G. W. Malone. 2009. Use of water based foam to depopulate ducks and other species. *Poultry Science*. 88: 904-910.M.D. Dawson, K.J. Johnson, E.R.

Benson, **R.L. Alphin** and G.W. Malone. 2009. Determining Brain Death in Depopulated Broilers Using Accelerometers. *Journal of Applied Poultry Research*. 2009 18: 135-142.