

ACPV Application for Emeritus Membership

Name: David Frame

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United States

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Phone: (435) 283-4828

Birthplace: Salt Lake City, UT

Birth date: 7/15/1956

Citizenship/Permanent Residency: United States

Additional Information

How long have you been a member of ACPV?: 30 years

Resume of your experience in avian medicine:

(Recent positions, please give employer name, title, type of work and years spent)

See below.

What are you doing now?:

I am finishing up employment as Poultry Specialist with the Utah State University Animal, Dairy, and Veterinary Sciences Department until December 31, 2023 when I officially retire. In the meantime, I am working out retirement issues with Medicare, TIAA, and USU.

Other Comments:

I was admitted as a diplomate of the ACPV in 1992 (Boston, MA).

CURRICULUM VITAE

David D. Frame



Home Address

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Business Address

ADVS Department
Utah State University
Central Utah Veterinary
Diagnostic Laboratory

EDUCATION

<u>University</u>	<u>Degree</u>	<u>Dates</u>
Utah State University	B.S. Animal Science	1974 - 1980
Oregon State University	D.V.M.	1980 - 1984
Washington State University	D.V.M.	1980 - 1984
University of California, Davis	Residency Certificate	1985 - 1987
American College of Poultry Veterinarians	Board Certification	1992

EXPERIENCE AND PROFESSIONAL TRAINING

November 1998 to present – Associate Professor and Extension Poultry Specialist, Utah State University

May 2006 – Completed the Exotic and Emerging Diseases of Animals Training Course held in Ft. Collins, Colorado and sponsored by USDA-APHIS-VS, the Colorado Department of Agriculture, and the Animal Population Health Institute.

November 2003 – Completed the pathologists training course at Plum Island in foreign animal diseases.

July 2002 – Was deployed to the Virginia/West Virginia Low Path Avian Influenza Task Force and worked with Martin Smeltzer, USDA-APHIS in the biosecurity division.

November 1986 to November 1998 - Employed by Moroni Feed Company, Moroni, Utah as head of veterinary department

January 1985 to November 1986 - Completed a two-year avian residency program with the University of California, Davis Veterinary Medical Teaching Hospital. My residency position was an appointment assessing the feasibility of providing veterinary medical services to a specific group of egg producers representing approximately 8% of the total egg industry of the state of California. My major responsibility was to investigate how veterinary services might be utilized by the egg industry in an advantageous manner. My residency appointment was at the time the only post-DVM training program that provided such intensive training in being able to work within a collective structure of egg companies. Other assignments within the avian residency program:

1. Provision of lecture and curriculum material to veterinary students and students enrolled in the Master of Preventive Veterinary Medicine (MPVM) program
2. Conduct epidemiologic field investigations
3. Incorporate computer skills in providing more efficient flock health management services
4. Working knowledge of avian diagnostic procedures

COMMITTEE ASSIGNMENTS

Member of Certification Examination Committee for the American College of Poultry Veterinarians (1993-96; 2008 to 2013)

Editorial/Review Board for *Poultry Science* (2008-present)

Subject Editor for the Health and Disease section of *The Journal of Applied Poultry Research* (2002 to 2005; 2008 to 2010).

Editorial/Review Board for the *Journal of Applied Poultry Research* (2006-present)

Utah Department of Agriculture and Food Avian Influenza Advisory Committee (2005-present)

National Poultry Improvement Plan General Conference Committee Member for the Western Region (Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, California, Alaska, and Hawaii) (2002 to 2006)

Western Region Board Member of the American Association of Avian Pathologists (2000-2004)

Alternate member for National Poultry Improvement Plan General Conference Committee for the Western Region (Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, California, Alaska, and Hawaii) (2000 to 2002)

Proceedings Editor for the Western Poultry Disease Conference (2001 - present)

Member of the American Association of Avian Pathologists Committee on Economics and Quantitative Epidemiology (1988-91)

Member of the Pacific Egg & Poultry Association Scientific Advisory Committee on Management, Disease and Reproduction (1986-95)

Member of the U.S. Animal Health Committee on Transmissible Diseases of Poultry and Other Avian Species (1989-2005)

Program Chairman of the Western Poultry Disease Conference (1995)

President of the Western Poultry Disease Conference (1996)

MEMBERSHIP IN PROFESSIONAL AND SCIENTIFIC ORGANIZATIONS

American Veterinary Medical Association
American Association of Avian Pathologists
American Association of Veterinary Laboratory Diagnosticians
Poultry Science Association
U.S. Animal Health Association (past)
American College of Poultry Veterinarians

PUBLICATIONS LIST

Refereed Publications

Frame, David D., E. Jane Kelly, and Arnaud Van Wettere. Cardiomyopathy in Rio Grande Subspecies of Wild Turkey (*Meleagris gallopavo*) in Southern Utah, USA, 2013. J Wildlife Diseases, 51(3), pp. 790-792. 2015.

Frame, David D. Invited book review: Diseases of Poultry, 12th edition, 2008. Editor-in-Chief, Y.M. Saif; Associate Editors, A. M. Fadley, J. R. Glisson, L. R. McDougald, L. K. Nolan, and D. E. Swayne. ISBN-13: 978-0-8138-0718-8. Journal of Applied Poultry Research 17 (4): 559. doi:10.1093/japr/17.4.559. 2008.

Frame, David D., Matt Palmer, Ben Peterson. Use of *Camelina sativa* in diet of young turkeys. Journal of Applied Poultry Research, in review. Journal of Applied Poultry Research 16:381-386. 2007.

Frame, D. D., E. J. Kelly, N. Fields, and L. G. Bagley. Dairy compost as a source of turkey brooder bedding. Journal of Applied Poultry Research, 13:614-618. 2004.

Frame, D. D., Robert E. Buckner, and Gary L. Anderson. Pelletized Newspaper Bedding for Turkeys and its Effect on Brooding Performance Journal of Applied Poultry Research, 11:229-232. 2002.

Brad S. Huber, Darin V. Allred, John C. Carmen, **David D. Frame**, David G. Whiting, Jason R. Cryan, Terry R. Olson, Paul J. Jackson, Karen Hill, Miriam T. Laker, and Richard A. Robison. Random amplified polymorphic DNA and amplified fragment length polymorphism analyses of *Pasteurella multocida* isolates from fatal fowl cholera infections. Journal of Clinical Microbiology 40:2163-2168. 2002.

Frame, D.D., D. M. Hooge, and R. Cutler. Interactive effects of dietary sodium and chloride on the incidence of spontaneous cardiomyopathy (round heart) in turkeys. Poultry Science 80:1572-1577. 2001.

Frame, D. D., F. D. Clark, and R. A. Smart. Recurrent outbreaks of a cutaneous form of *Pasteurella multocida* infection in turkeys. Avian Dis. 38:390-392. 1994.

Smith, Jeanne M., **D. D. Frame**, G. L. Cooper, A. A. Bickford, G. Y. Ghazikhanian, and B. J. Kelly. *Pasteurella anatipestifer* infection in commercial meat-type turkeys in California. Avian Dis. 31:913-917. 1987.

Frame, David D., and A. A. Bickford. An outbreak of coccidiosis and necrotic enteritis in 16-week old cage-reared layer replacement pullets. Avian Dis. 30:601-602. 1986.

Peer-reviewed Technical Publications

Fact Sheets

Frame, David D. and Arnaud Van Wettere. Collection Procedure for Submitting PCR Samples to Utah Veterinary Diagnostic Laboratory for Avian Influenza Testing in Turkeys, Chickens, and Game Birds. AG/Poultry/2015-02pr.

Frame, David D. Disinfectants Against Avian Influenza Viruses. AG/Poultry/2015-01pr.

Cooper, Troy D., Darrell Rothlisberger, and **David D. Frame**. Basic Selection, Nutrition and Care of Show Poultry. AG/Poultry/2014-01pr.

Sarah Tilley, **David D. Frame**, and Mark C. Bland. Marek's Disease (MD, Range Paralysis, Gray Eye). AG/Poultry/2013-01pr.

http://extension.usu.edu/files/publications/publication/AG_Poultry_2013-01pr.pdf

Lance T. Ellis and **David D. Frame**. 4-H Poultry Showmanship Questions. Fact Sheet No. 72309-1. May 2012. University of Idaho Extension.

Cooper, Troy D. and **David D. Frame**. Information for the Poultry Showmanship Judge. AG/Poultry/2012-07pr. http://extension.usu.edu/files/publications/publication/AG_Poultry_2012-07pr.pdf

Cooper, Troy D. and **David D. Frame**. Preparing Your Bird for the Poultry Showmanship Contest. AG/Poultry/2012-06pr. http://extension.usu.edu/files/publications/publication/AG_Poultry_2012-06pr.pdf

Frame, David D. Causes and Control of Selected Diseases Related to Backyard Chicken Flocks in Utah. http://extension.usu.edu/files/publications/publication/AG_Poultry_2012-04pr.pdf

Frame, David D. Postmortem Examination of Turkeys. AG/Poultry/2012-03pr. http://extension.usu.edu/files/publications/publication/AG_Poultry_2012-03pr.pdf

Cooper, Troy D. and **David D. Frame**. What Is Expected of the Poultry Showman? AG/Poultry/2012-02pr. http://extension.usu.edu/files/publications/publication/AG_Poultry_2012-02pr.pdf

Cooper, Troy D. and **David D. Frame**. Organizing a Poultry Showmanship Contest. AG/Poultry/2012-01pr. http://extension.usu.edu/files/publications/publication/AG_Poultry_2012-01pr.pdf

Frame, David D. Procedure and Checklist for Vaccinating Commercial Meat Turkey Flocks. http://extension.usu.edu/files/publications/publication/AG_Poultry_2011-02pr.pdf

Frame, David D. Postmortem Evaluation of Game Birds. Ag/Poultry/2010/05.pr http://extension.usu.edu/files/publications/publication/AG_Poultry_2010-05pr.pdf

Frame, David D. Poultry and Game Bird Hatchery Sanitation and Biosecurity. Ag/Poultry/2010-04pr. http://extension.usu.edu/files/publications/publication/AG_Poultry_2010-04pr.pdf

Frame, David D. Selecting and Preparing Broilers for Show. Ag/Poultry/2010-03pr. http://extension.usu.edu/files/publications/publication/AG_Poultry_2010-03pr.pdf

Frame, David D. Basics for Raising Backyard Chickens. Ag/Poultry/2010-02pr. https://extension.usu.edu/files/publications/publication/AG_Poultry_2010-02pr.pdf

- Frame David D.** and Kerry Rood. Handling Baby Poultry. AG/Poultry/2010-01pr. http://extension.usu.edu/files/publications/publication/AG_Poultry_2010-01pr.pdf
- Frame, David D.** Considerations in Raising Small Backyard Flocks of Poultry in Population-dense Communities. Ag/Poultry/2009-02pr. http://extension.usu.edu/files/publications/publication/AG_Poultry_2009-02pr.pdf
- Frame, David D.** Molting and Determining Production of Laying Hens. Ag/Poultry/2009-01pr. http://extension.usu.edu/files/publications/publication/AG_Poultry_2009-01pr.pdf
- Frame, David D.** and Matt Palmer. Nutrient Content of *Camelina Sativa* and Feeding Trials in Turkeys. AG/Poultry/2008-03pr. http://extension.usu.edu/files/publications/publication/AG_Poultry_2008-03pr.pdf
- Frame, David D.** Principles of Feed Small Flocks of Chickens at Home. 2008. http://extension.usu.edu/files/publications/publication/AG_Poultry_2008-02pr.pdf
- Frame, David D.** Housing Backyard Chickens. Ag/Poultry/2008-01pr. 2008. http://extension.usu.edu/files/publications/publication/AG_Poultry_2008-01pr.pdf
- Frame, David D.,** Matt Palmer, Robert Ward, and Silvana Martini. Feeding *Camelina sativa* and Enhancing Omega-3 Fatty Acid Levels in Market-Age Turkey Hens. March 2008. AG/Poultry/2008-01. http://extension.usu.edu/files/publications/publication/AG_Poultry_2008-01.pdf
- Frame, David D.** Biosecurity principles: protecting the Utah turkey industry, 2003. http://extension.usu.edu/files/publications/publication/AG_Poultry_Health_Biosecurity_03.pdf
- Frame, David D.** Biosecurity principles: protecting your investment, 2003. <http://extension.usu.edu/files/agpubs/poulprinciples.pdf>
- Frame, David D.** and Gary L. Anderson. Nutrient content of turkey litter. AG/Poultry/Waste Management/01. 2003. http://extension.usu.edu/files/publications/publication/AG_Poultry_Waste_Management_01.pdf
- Frame, David D.** and Gary L. Anderson. Understanding static pressure. AG/Poultry/Vent/03. 2001. <http://extension.usu.edu/files/agpubs/poultryv-031.pdf>
- Frame, David D.** and Gary L. Anderson. Steps in evaluating power ventilation needs in Utah turkey facilities. AG/Poultry/Vent/02. 2001. <http://extension.usu.edu/files/agpubs/poultryv-02.pdf>
- Frame, David D.** and Gary L. Anderson. Ventilation basics for Utah turkey facilities. AG/Poultry/Vent/01. 2001. http://extension.usu.edu/files/publications/factsheet/Ag_poultry_Vent_01.pdf
- Frame, David D.** Weekly feed consumption of light consumer-size turkeys raised in Utah. AG/Poultry/03. 2000. <http://extension.usu.edu/files/agpubs/poultry3.pdf>
- Frame, David D.** Daily water consumption of turkeys raised in Utah. AG/Poultry/02. 2000. <http://extension.usu.edu/files/agpubs/poultry2.pdf>
- Frame, David D.** Weekly growth characteristics of consumer-size Orlopp turkeys raised in Utah. AG/Poultry/01. 2000. <http://extension.usu.edu/files/agpubs/poultry1.pdf>
- Frame, D. D.** Causes and control of spontaneous cardiomyopathy or roundheart disease in Utah turkeys. AG506. 1999. <http://extension.usu.edu/files/agpubs/ag506.pdf>

Non-peer-reviewed Technical Publications

Frame, David D. Avian Influenza: For Backyard Chick Owners. January 2015.
http://chicken.usu.edu/files/Avian_Influenza_Flyer.pdf

Frame, D.D. and Marilyn Simunich. 2011. Biosecurity Challenges on a Multispecies Game Bird Farm with Detectable H5N8 Exposure. Proceedings of the Sixtieth Western Poultry Disease Conference, p. 63.

Invited contributor to *Career Choices for Veterinarians: Beyond Private Practice*, Second Edition, 2011. Carin A Smith. ISBN 1885780087.

Frame, David D. and Dennis L. Hinkamp. Exotic Newcastle Disease/La Enfermedad de Newcastle Exótica. (I did the Spanish translation in addition to writing the English version of this fact sheet.) 2003. http://extension.usu.edu/files/publications/publication/pub_190530.pdf

Frame, D. D., Matt Palmer, Robert Ward, Silvana Martini, and Boyd Beck. 2008. Feeding *Camelina sativa* to Meat Turkeys. WestVet19 Proceedings and oral presentation. Lake Louise, Alberta, Canada. September 30, 2008.

Frame, David D. 2006. Avian Influenza: Talking Points for County Agricultural Educators and Suggested Biosecurity Guidelines. *USU Extension, Fact Sheet*, AG/poultry/2006-02.

Frame, David D. 2006. Biosecurity Rules for the 2006 Utah Turkey Show. *Fact sheet and oral presentation*, Utah Department of Agriculture and Food Building. May 8, 2006.

Frame, David D. and Lynn Bagley. 2004. Utah Broiler 4-H Handbook.

David Halvorson, Capua I., Cardona, C., **Frame D.**, Karunakaran, D., Marangon, S., Ortali, G., Roepke, D., Woo-Ming, B. 2003. The economics of avian influenza control. Proceedings of the Fifty-second Western Poultry Disease Conference, pp. 5-6.

Frame, David. 2000. H7N3 outbreak halted by vaccine. *World Poultry-Elsevier Special '00*, pp. 20-21.

Godfrey, E. Bruce, **David Frame**, Gary Anderson, and Ruby Ward. 2000. Enterprise budget: raising hen turkeys, 7,500 poults, Utah, 1999. *2000 Utah Agricultural Statistics and Utah Department of Agriculture and Food Annual Report*, p. 167. Issued cooperatively by Utah Department of Agriculture and Food and USDA.

Frame, D. D. and G. L. Anderson. 2000. Role of Utah State University extension in environmentally improving turkey health. Proceedings 49th Western Poultry Disease Conference, pp. 69-71.

Frame, D. D., and G. L. Anderson. 1999. Environmental gas levels in turkey facilities. *Poultry Science Supplement* 1:107, p. 25.

Halvorson, David A., **David D. Frame**, Keith A. J. Friendshuh, and Daniel P. Shaw. 1997. Outbreaks of low pathogenicity avian influenza in U.S.A. Fourth International Symposium on Avian Influenza. Athens, GA. May 28-31.

Frame, D. D., B. J. McCluskey, R. E. Buckner, and F. D. Halls. 1996. Results of an H₇N₃ avian influenza vaccination program in commercial meat turkeys. Proceedings 45th Western Poultry Disease Conference, Cancun, Mexico.

Other Professional Publications and Presentations

Frame, David. Highly Pathogenic Avian Influenza in Poultry. Utah One Health Symposium. Thanksgiving Point, Lehi, UT. October 1, 2015.
https://onehealthsymposium.usu.edu/wp-content/uploads/2015/09/DDFrame_avian-influenza-15.pdf

Frame, David D. 2015. Physical Barriers Against Avian Influenza Entry. *NAGA News*, July/August 2015, pages 12-13.

Wallner-Pendleton, Eva, Rocio Crespo, and **David Frame.** 2014-2015 Highly Pathogenic Avian Influenza Situation in US and Canada in Domestic and Wild Bird Species. What Can Game Bird Producers Do To Protect Their Flocks? *NAGA News*, January 2015.

Frame, David D. Avian Influenza. Utah Veterinary Diagnostic Laboratory Quarterly Newsletter – Winter 2015, pp. 3-4.

Frame, David D. Raise Chickens in Your Backyard. Salt Lake County Extension. Jordan Valley Conservation Garden Park, West Jordan, UT. May 11, 2013.

Frame, David D. Why Vaccinate for Hemorrhagic Enteritis? Norbest Turkey School. Snow College, Ephraim, UT. May 8, 2013.

Frame, David D. Overview of *Salmonella* drag swab and AI surveillance at the Central Utah Branch Veterinary Diagnostic Laboratory. Utah Egg Quality Assurance Plan Training Meeting, Utah Department of Agriculture and Food. Salt Lake City, Utah. October 3, 2012.

Pendleton, Eva and **David D. Frame.** Parasitology wet lab. North American Game Bird Association annual conference. Reno, Nevada. February 7, 2012.

Frame, David D. *Salmonella* monitoring flow-through at CUVDL and ELISA serology to indicate poor or good vaccination technique. Utah Egg Quality Assurance Plan Training Meeting. Utah Department of Agriculture and Food. Salt Lake City, Utah. October 12, 2011.

Frame, David D. Necropsy techniques for game birds – included conducting a wet lab. Utah Game Bird Health and Management Symposium, Green River, Utah. March 11, 2011.

Frame David D. Brooding game birds. Utah Game Bird Health and Management Symposium, Green River, Utah. March 11, 2011.

Frame, David D. Presentation addressing small flock poultry raising as part of the Small Acreage Workshop at Nibley, Utah at the invitation of Cache County Extension. March 31, 2010.

Frame, David D. seminar on small flock poultry raising at Preston, ID at the invitation of Franklin County Extension. March 2, 2010.

Frame, David D. Poultry Management and Disease for Veterinarians. Practitioner Poultry Workshop (6 CE credits given to registrants by the Utah Veterinary Medical Association). South Jordan, Utah. October 28, 2009.

Wadhvani*, R., Suzuki, A.H., Martini, S., Ward, R., **Frame D.D.** and Palmer, M. 2008. Consumer acceptance of breasts and thighs obtained from turkeys fed with omega-3 fatty acids (poster presentation). *IFT-Bonneville Section* Salt Lake City, March 6, 2008.

- Frame, David D.**, Matt Palmer, Robert Ward, and Silvana Martini. Feeding Camelina Meal to Market-Age Turkey Hens. Extension Annual Planning and Professional Development Conference, *Best Practices Proceedings*, page 22. Logan, Utah. March 5, 2008.
- Frame, David D.**, Matt Palmer, Robert Ward, and Silvana Martini. Feeding *Camelina sativa* to Market-Age Hen Turkeys. Invited speaker at Snow College “Faculty Forum” – an educational lecture series given to faculty of Snow College. January 29, 2008.
- Frame, David D.** Invited presentation on *Salmonella* monitoring. Moroni Feed Company Plant *Salmonella* Surveillance Committee Meeting. November 27, 2007.
- Frame, David D.** Diagnostic Capabilities of the UVDL for the Commercial Egg Producers. Invited oral presentation at the Utah Egg Quality Assurance Plan annual training meeting. September 19, 2007.
- Frame, David D.** Disease Spread and Biosecurity Considerations. Invited presentation at the Utah Egg Quality Assurance Plan Annual Training Meeting and UDAF AI Table Top Training. September 19, 2007.
- Frame, David D.**, Matt Palmer, and Ben Peterson. Feeding False Flax (*Camelina sativa*) to Young Turkeys. Extension Annual Planning and Professional Development Conference. March 7, 2007.
- Frame, David D.** 2006. Overview of Avian Influenza Threat to a Human Pandemic. Family Preparedness Certification Workshop, St. George, Utah. October 28, 2006.
- Frame, David D.** 2006. Table Top Discussion on Potential Avian Influenza Outbreak in Utah – Possible Scenario and Review of Risk Factors. Utah Egg Quality Assurance Plan Training, Utah Department of Agriculture and Food. October 11, 2006.
- Frame, David D.** 2006. Overview of Avian Influenza. Meeting of Southwest Region Family and Consumer Science Extension Agents, Beaver, Utah. June 20, 2006.
- Frame, David D.** 2005. Avian Influenza (Overview). Invited speaker, Utah Agroterrorism Working Group Quarterly Meeting, Utah Department of Agriculture and Food, 350 N. Redwood Road. December 5, 2005.
- Frame, David D.** 2005. Turkey Building Ventilation: Principles and Fundamentals. Moroni Feed Company Growers Meeting. November 9, 2005.
- Frame, D. D.** 2004. Avian Influenza: Overview of Low vs High Path AI and Economic Implications. Utah Egg Quality Assurance Plan Training Meeting, Utah Dept. of Agriculture and Food, Salt Lake City, Utah. October 13, 2004.
- Frame, D. D.** 2004. Dietary Observations Associated With Turkey Cardiomyopathy. Fifteenth Western Meeting of Poultry Clinicians and Pathologists, Lake Louise, Alberta, Canada. October 5, 2004.
- Frame, David D.** 2002. The Avian Influenza Outbreak of 1995 in Utah, Harrisonburg, VA USDA-APHIS Incident Command Post.
- Frame, David D.** 2000. Role of Utah State University Extension in Environmentally Improving Turkey Health, 49th Western Poultry Disease Conference.

Extension Newsletters/Research Reports

- Frame, David D.** 2015. Summer Biosecurity Review. Norbest Growers' Newsletter, July 2015 Edition, page 6. (July 2015)
- Frame, David D.** 2015. Avian Influenza [A review]. Utah Veterinary Diagnostic Laboratory Quarterly Newsletter. Winter 2015, pp. 3-4.
- Frame, David D.** 2015. Avian Influenza Awareness for Hobby and Backyard Chicken Owners. This is a flyer constructed and made available in the wake of high path H5 avian influenza outbreak in the US. (January 2015) http://chicken.usu.edu/files/Avian_Influenza_Flyer.pdf.
- Frame, David D.** 2014. *Ornithobacterium rhinotracheale* (ORT): An Emerging Disease in the Sanpete Valley. Norbest Growers' Newsletter, December 2014 Edition, page 4. (December 2014)
- Frame, David D.** 2014. Fowl Cholera: Review of Signs, Treatment, and Control. Norbest Growers' Newsletter, November 2014 Edition, page 8. (November 2014)
- Frame, David D.** 2014. Update on *Bordetella avium* (Turkey Coryza). Norbest Growers' Newsletter, September 2014 Edition, page 7. (September 2014)
- Frame, David D.** 2013. Application of Reoxcyn to Turkey Litter to Assess Reduction of Bacteria and Fungi/Molds. (October 25, 2013). Field trial sponsored by Reoxcyn Discoveries Group, Inc., West Valley City, Utah
- Frame, David D.** 2012. Hemorrhagic Enteritis Virus Infection: Master of Stealth and Disguise. (August 2012). Moroni Feed Company *Grower News*, Vol. 2 Issue 8.
- Frame, David D.** 2012. Careful Attention to Brooder Environment Necessary to Minimize Roundheart and Other Air-Related Poult Health Issues. (January 2012). Moroni Feed Company *Grower News*, Vol. 2 Issue 1.
- Frame, David D.** 2011. Procedure and Checklist for Water Vaccination [of turkeys]. (October 2011). Moroni Feed Company *Grower News*, Vol. 1 Issue 6.
- Frame, David D.** 2011. Optimal ventilation practices in turkey buildings. (August 2011). Moroni Feed Company *Grower News*, Vol. 1 Issue. 4.
- Frame, David D.** 2011. Reminder of biosecurity practices for spring avian influenza potential. (May 2011). Moroni Feed Company *Grower News*, Vol. 1 Issue. 1.
- Frame, David D.** 2006. A06-2: Nutridense Corn Trial Through Growout. Moroni Feed Company Annual Nutrition Planning Meeting. October 18, 2006.
- Frame, David D., Matt Palmer, Ben Peterson.** 2006. BAT06-3: Potential Camelina sativa Use in Turkey Diets. Utah Turkey Marketing Board. October 26, 2006.
- Frame, David D.** 2006. F06-3: Hybrid Converter Tom Feeding Programs. Moroni Feed Company Annual Nutrition Meeting. October 18, 2006.
- Frame, David D.** 2006. W06-3: Hybrid Converter Hen Feeding Programs. Moroni Feed Company Annual Nutrition Meeting. October 18, 2006.
- Frame, David D.** 2006. W06-1: Lubing Drinker Cup Trial. Moroni Feed Company Research Committee. May 10, 2006.

- Frame, David D.** 2005. W05-4 Summary Orlopp Heavy Hen Test (119 & 126 d). Moroni Feed Company Annual Nutrition Meeting. October 18, 2005.
- Frame, David D.** 2005. F05-4 Summary Orlopp Mid Tom Test (129 & 136 d). Moroni Feed Company Annual Nutrition Meeting. October 18, 2005.
- Frame, David D.** 2005. Orlopp Heavy Hens and Mid Toms: Feed Conversion. Moroni Feed Company Annual Nutrition Meeting. October 18, 2005.
- Frame, David D.** 2005. Research Report: Feeding Schedule of Orlopp Turkey. Moroni Feed Company Annual Nutrition Meeting. October 18, 2005.
- Frame, David D.** 2005. A05-3: Nicholas Strain Test. Moroni Feed Company Research Committee. July 21, 2005.
- Frame, David D.** 2005. Use of Nutridense Corn in Poult Starter Diets. May 2005. Moroni Feed Company Research Committee. July 21, 2005.
- Frame, David D.** 2005. W05-2 Results of 2005 Mid Tom Test (135 d). Moroni Feed Company Research Committee. June 15, 2005.
- Frame, David D.** 2005. A05-1 Results of 2005 Heavy Hen Test (122 d). Moroni Feed Company Research Committee. April 20, 2005.
- Frame, D. D.** 2004. Report of 2004 Research at the USU Turkey Research Center. *Annual Moroni Feed Company Nutrition Meeting*, Moroni Feed Company, Moroni, Utah. October 26, 2004.
- Frame, David D.** 2003. West Nile Virus. (August 2003). *Poultry Extension Update*, e-Issue 13.
- Frame, David D.** Lighting Costs: Incandescent vs. Fluorescent Lighting in Brooder. (June 2003). *Research Report*.
- Frame, David D.** Turkey Water Consumption Patterns in Confined Rearing. (May 2003). *Research Report*.
- Frame, David D.** Management Tips to Minimize Ammonia Production. (October 2002). *Poultry Extension Update*, e-Issue 12.
- Frame, David D.** Summary of Recent Studies at Turkey Research Center/Turkey Farm Biosecurity Evaluation Form. (October 2002). *Poultry Extension Update*, Issue 11.
- Frame, David D.** Update on Two Important Diseases Potentially Impacting Our Turkey Industry. (January 2002). *Poultry Extension Update*, Issue 10.
- Frame, David D.** Nicholas vs Orlopp Performance of Mid and Heavy Toms. (November 2001). *Research Report*.
- Frame, David D.** An Experience with Newcastle and Hemorrhagic Enteritis at the USU Turkey Research Center. (April 2001). *Research Report*.
- Frame, David D.** Production Summary of Nicholas Turkeys Grown in Utah. (September 2000). *Poultry Extension Update*, Issue 9.
- Frame, David D.** Midnight Snacking. (September 2000). *Poultry Extension Update*, Issue 9.
- Frame, David D.** Light Tom Density Study. (June 2000). *Poultry Extension Update*, Issue 8.

Frame, David D. Roundheart vs Dietary Sodium and Chloride. (April 2000). *Poultry Extension Update*, Issue 7.

Frame, David D. Cold Weather Growout Observations. (January 2000). *Poultry Extension Update*, Issue 6.

Frame, David D. Hen Density Study Summary. (January 2000). *Poultry Extension Update*, Issue 6.

Frame, David D. Improved Growout Temperature Regulation by Use of an Electronic Controller. (November 1999). *Poultry Extension Update*, Issue 5.

Frame, David D. Orlopp Water Consumption. (November 1999). *Poultry Extension Update*, Issue 5.

Frame, David D. Weekly Feed Consumption of Orlopp Turkeys. (September 1999). *Poultry Extension Update*, Issue 4.

Frame, David D. Hen Density Trial – June-August 1999. (September 1999). *Poultry Extension Update*, Issue 4.

Frame, David D. Personal Flock Accounting Software. (July 1999). *Poultry Extension Update*, Issue 3.

Frame, David D. Comparison of Environmental Temperature Variability in Three Functionally Different Turkey Growouts. (July 1999). *Poultry Extension Update*, Issue 3.

Frame, David D. Performance Results of First 1999 Flock of Totally Confined Hens. (March 1999). *Poultry Extension Update*, Issue 2.

Frame, David D. Litter Treatment for Ammonia Control. (March 1999). *Poultry Extension Update*, Issue 2.

Frame, David D. Conventional Gas vs Radiant Gas Brooder Stoves. (March 1999). *Poultry Extension Update*, Issue 2.

Frame, David D. Ventilation – Research Update. (December 1998). *Poultry Extension Update*, Issue 1.

Grants

Norbest (2015) \$500. Funding for research on *Bordetella avium* isolates and comparison to vaccine strain.

2012-13 USU Extension and Utah's Barnyard Grants (2012) \$3,000. To be used for media production and seminars for education of backyard poultry.

Moroni Feed Company (2011) \$522. Funding for an additional battery brooder trial using *Morinda citrifolia* (Noni) in turkey diets in order to assess immune response to vaccination with hemorrhagic enteritis commercial product.

2011-12 USU Extension Grant (2011) \$5,000. To be used for media production and seminars for education of backyard poultry keepers.

Morinda Agriculture, Inc. (2011) \$3,599. I was principal investigator on a battery brooder trial evaluating the use of *Morinda citrifolia* (Noni) in turkey diets.

Utah Department of Agriculture and Food. (2011) \$10,000. Utah Game Bird Biosecurity and Management Symposium, Green River Utah. I was highly instrumental in proposing, setting up, and directing the use of these funds for the biosecurity and management training of Intermountain West game bird producers.

Morinda Agriculture, Inc. (2010) \$10,860. I was principal investigator on two field trials evaluating the use of *Morinda citrifolia* (Noni) in turkey diets

Utah Integrated Pest Management and Sustainable Agriculture Mini-grant (2009) \$1185. (Co-investigator with Matt Palmer, USU Sanpete County Extension Agricultural Agent)

Utah Department of Agriculture and Food. (2008) \$7,000. Utah Game Bird Biosecurity and Management Symposium, Green River Utah. Although this grant came through the UDAF, I was highly instrumental in proposing, setting up, and directing the use of these funds for the biosecurity training of Intermountain West game bird producers..

Utah Department of Agriculture and Food (2007-08) \$6,000. I was principal investigator on projects evaluating the use of *Camelina sativa* in turkey diets in order to increase omega-3 fatty acid concentration in breast and thigh meat.

Nicholas Turkey Breeding Farms (2005) \$5,000

Moroni Feed Company (2004) \$744.

Sunset Turkeys, Inc. (2002) \$150.

Alltech, Inc. (2002) \$900.

Utah Turkey Marketing Board (2002) \$29,600.

Hired-Hand Mfg. Co., Bremen, Alabama (2001) \$2,000.

Coulombe, R., **D. Frame** - National Research Initiative, Competitive Grant, USDA, 2002. Chemoprotection of aflatoxicosis in turkeys by dietary antioxidants (02-2780). \$293,750. Co-investigator.

Year 2001 Pacific Egg & Poultry Association (2001) \$500.

Aventis Animal Nutrition (2001) \$10,000.

Mountainwest Farm Services (2000) \$3,176.

Aventis Animal Nutrition (2000) \$8,500.

USDA Community Facilities and Rural Development (2000) \$50,000

Utah Turkey Marketing Board (1999-2006) \$15,000 each year (\$120,000 through 2006)

ACPV Application for Emeritus Membership

Name: Richard Fulton

Address:

3685 David Lane
Lansing, Michigan 48911
United States

Email: fultonr@msu.edu

Phone: (517) 242-3782

Birthplace: Huntington, Indiana

Birth date: 9/11/1950

Citizenship/Permanent Residency: United States

Additional Information

How long have you been a member of ACPV?: 30 years

Resume of your experience in avian medicine:

(Recent positions, please give employer name, title, type of work and years spent)

See below.

What are you doing now?:

I am partially retired and plan on fully retiring in 2024. If opportunities avail, I will consult.

Other Comments:

RICHARD M. FULTON

BUSINESS ADDRESS

Michigan State University Veterinary
Diagnostic Laboratory
Michigan State University
Room 136F
4125 Beaumont Road
Lansing, Michigan 48910-8104

Phone: 517-353-3701
FAX: 517-884-3706
E-mail: fultonr@msu.edu

HOME ADDRESS

3685 David Lane
Lansing, Michigan 48911-6144

Phone: 517-242-3782

EDUCATION

Doctor of Philosophy, Purdue University, West Lafayette, Indiana,
1991.

Major: Veterinary Pathology

Doctor of Veterinary Medicine, Purdue University, 1981.

Major: Veterinary Medicine

Bachelor of Science, with distinction, Agriculture,
Purdue University, 1978.

Major: Farm and Small Business Management

PROFESSIONAL EXPERIENCE

2020 to Present Professor, Avian Diseases

Michigan State University Veterinary
Diagnostic Laboratory

and

Department of Pathobiology and Diagnostic
Investigation
College of Veterinary Medicine
Michigan State University
East Lansing, Michigan 48824

2001 to 2020 Associate Professor, Avian Diseases

Michigan State University Veterinary
Diagnostic Laboratory

and

Department of Pathobiology and Diagnostic
Investigation
College of Veterinary Medicine
Michigan State University
East Lansing, Michigan 48824

August 2007 to August 2008 Technical Operations Manager and
Senior Technical Consultant

STamping Out Pandemic and Avian Influenza (STOP AI)
a United States Agency for International Development
(USAID) funded project

STOP AI
Development Alternatives, Inc.
1455 Pennsylvania Ave., NW Suite 400
Washington, DC 20004

2003 to February 2006

Chief, Anatomic Pathology
Chief, Necropsy Section

Diagnostic Center for Population and
Animal Health
4125 Beaumont Road
Michigan State University
Lansing, Michigan 48910-8104

2001 to 2003 Chief, Necropsy Section

Animal Health Diagnostic Laboratory
Michigan State University
East Lansing, Michigan 48824

1994 to 2001 Assistant Professor, Avian Diseases

Animal Health Diagnostic Laboratory
and Department of Pathology
College of Veterinary Medicine
Michigan State University
East Lansing, Michigan 48824

- 1992 to 1994 Avian Diagnostic Pathologist

 Animal Disease Diagnostic Laboratory
 Purdue University, 1175-ADDL
 West Lafayette, Indiana 47907
- 1991 to 1992 Acting Chief, Avian Laboratory
 (January 1991 to July 1992)

 Animal Disease Diagnostic Laboratory
 Purdue University, 1175-ADDL
 West Lafayette, Indiana 47907
- 1987 to 1991 Eli Lilly Research Fellowship in Veterinary
 Pathology

 Department of Veterinary Pathobiology
 Purdue University, West Lafayette, Indiana
- 1985 to 1987: Graduate Instructor in Veterinary Pathology

 Department of Veterinary Pathobiology
 Purdue University, West Lafayette, Indiana
- 1982 to 1985: Veterinarian, Private practice, Small animal
 medicine and surgery

 Western Avenue Animal Hospital, Marion, Indiana
- 1981 to 1982: Veterinarian, Private practice, Large animal
 medicine and surgery

 Weldy's Associates Incorporated, Goshen, Indiana

EXCELLENCE IN SERVICE TO THE PROFESSION

AWARDS AND HONORS

Outstanding Service Award, Midwest Poultry Consortium, 2019.

The Outstanding Service Award is given to an individual who exemplifies Outstanding Service to the Consortium and to the poultry industry as a whole. Midwest Poultry Consortium consists of 13 universities and poultry companies, most of which are situated in the Midwest. Those universities include Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin, and Florida. The purpose of the consortium is to provide poultry education and research.

Meritorious Service Award, 69th North Central Avian Disease Conference of the American Association of Avian Pathologists, 2018.

The Meritorious Service Award is given in recognition of outstanding contribution to avian medicine and devotion to the poultry industry at the North Central Avian Disease Conference where approximately 90 poultry veterinarians attend annually. That conference represents academic, corporate, regulatory and allied industry poultry veterinarians from the north central region of the United States of America.

Group Recognition Award, member of the Lascadoil Animal Feed Contamination Response Group.

I was the pathologist that recognized and diagnosed the index case of feed contamination by Lascadoil in commercial turkeys. I was home, ill with a fever, when I was notified of the death loss in a commercial turkey flock. Despite being ill, I went to the diagnostic laboratory, performed the necropsies, collected samples and informed the toxicology laboratory that we had an ionophore toxicosis. VDL's toxicology lab was later able to identify the toxicant as Lascadoil, an adulterant. Poultry producers in other states were affected by this error.

President, American Association of Avian Pathologists, August 2013 to July 2014.

The president is nominated by a group of past presidents and trust members and elected by the membership of over 400 poultry veterinarians

Member, Scientific Advisory Committee, United Egg Producers, 2020 to present

ORGANIZATIONAL ACTIVITY - NATIONAL

President Elect, American Association of Avian Pathologists, August 2012 to August 2013.

Past-President, American Association of Avian Pathologists, July 2014 to July 2015.

Chair, Nominating Committee, American Association of Avian Pathologists, 2018.

Member, Board of Directors, American Association of Avian Pathologists, July 2005 to 2007.

Member, Respiratory Diseases Committee of American Association of Avian Pathologists, 1991 to 2015.

Member, sub-committee on the American Veterinary Medical Association's Egg-laying Hen Molting Policy, American Association of Avian Pathologist's Animal Welfare Committee, 2009.

Member, Academic Food Supply Veterinary Medicine Committee, American Association of Veterinary Colleges, 2009 to 2011.

Member, expert group, American Egg Board's project on Socially Sustainable Egg Production, 2009.

Member, Editorial Board, American Associations of Avian Pathologists' Avian Disease Manual, 2009 to present.

Invited Reviewer, Duck and Goose Animal Care Guidelines, US poultry & Egg Association, March 30, 2022.

Invited Reviewer, Poultry Diseases, North American Veterinary Licensing Examination (NAVLE®) National Board of Medical Examiners, August 2015.

Member, Agricultural Research Service National Program 101 Food Animal Production Peer Review Panel NP 101 Panel 2. Genomic Tools, 2017.

Associate editor, Environment and Health, Poultry Science, the official journal of the Poultry Science Association, Inc., 1997 to 2003.

Past Member, Food Safety and Diseases of Public Health Significance Committee of American Association of Avian Pathologists, 2004.

Past Member, Nomenclature and Disease Reporting Committee of American Association of Avian Pathologists, 2002.

Member, Founding and Executive Committee, Poultry Health Management School, Sponsored by The Ohio State University, Purdue University, University of Minnesota, and Michigan State University, 2002 to present.

A cooperative effort by university poultry faculty to provide practical training on poultry health and management through lectures, small group discussion, case studies, and hands-on laboratories. Poultry company owners, farm managers, barn workers, academic and industry personnel from all over the United States of America attend. The 4-day workshop is held annually where 2 days are focused on broilers and turkeys and 2 days are focused on egg laying chickens. Approximately 45 people attend the Broiler/Turkey school while over 75 people attend the Layer school per year. Approximately 25 industry poultry veterinarian per year assist the instructors. The schools are rotated on an annual basis to participating universities of the Midwest.

Host and Moderator 20th annual Poultry Health Management School, conducted virtually on May 24 and 25, 2021. Responsibility included program development, Attendee Welcome, moderator of 2 sessions and Closing Comments. Number of attendees were 162 including 85 layer attendees, 51 turkey attendees, and 26 broiler attendees. Countries besides the United States of America were Canada, India, Italy, Japan, Portugal, and Zimbabwe.

Host and Moderator Broiler/Turkey and Layer Health Management Schools, Michigan State University, East Lansing, Michigan, 2005, 2009, 2013, and 2017.

Invited Member, Technical Committee of Biennial conference of the National Poultry Improvement Plan, 1996, 1998, 2000, 2002, 2004, 2006, and 2012.

Associate editor, Environment and Health, Poultry Science, the official journal of the Poultry Science Association, Inc., 1997 to 2000, 2001 to 2003.

Past Editor, Journal of Applied Poultry Research

Member of Editorial Board of Macedonian Veterinary Review

Member of American Veterinary Medical Association

Member of American Association of Avian Pathologists

Member of World Veterinary Poultry Association

Member of American Veterinarians in Egg Production

Past Member of Association of Avian Veterinarians

Past Member of American Association of Veterinary Laboratory Diagnosticians

ORGANIZATIONAL ACTIVITY - REGIONAL

Member, Board of Directors, Midwest Poultry Federation, 2017 to present.

Host and Chair, 66th North Central Avian Disease Conference, St. Paul Minnesota, March 16 and 17, 2015.

Host and Chair, 65th North Central Avian Disease Conference, St. Paul Minnesota, March 17 and 18, 2014

Host and Chair, 57th North Central Avian Disease Conference, St. Paul Minnesota, March 20 and 21, 2006

Host and Chair, 51st North Central Avian Disease Conference,
Grand Rapids, Michigan, October 2 - 4, 2001.

Moderator, 54th North Central Avian Disease Conference and
Symposium on Current and Future Paradigms in Disease
Control, Cleveland, Ohio, September 23, 2003.

Moderator, North Central Avian Disease Conference, Minneapolis,
Minnesota, October 6-8, 2002.

Member, Executive Committee of North Central Avian Disease
Conference, 2000 - 2016.

Co-Host, 10th International Symposium on Marek's Disease and
Avian Herpesviruses, Michigan State University, East
Lansing, Michigan. July 20 - 23, 2014.

Moderator and Organizer, Pullet/Layer Health Workshop, Midwest
Poultry Federation Convention, St. Paul, Minnesota, 2001,
2007, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, and
2017.

Moderator and organizer, Turkey health "brown bag" session,
Educational Program, Midwest Poultry Federation Annual
Meeting, St. Paul, Minnesota, 2002, 2004, 2006.

ORGANIZATIONAL ACTIVITY - LOCAL

Member, Michigan Department of Agriculture's Avian Disease
Advisory Committee, 1994 to present.

Member, Michigan Department of Agriculture's Avian Disease Task
Force, 1994 to present.

Past Member, Subcommittee of Michigan Department of Agriculture's
Pre-Harvest Food Safety Committee, 2002 - 2004

Member, Michigan's Interagency Task Force on Avian Influenza
(Bird Flu) Preparedness, includes Michigan's Office of the
Governor, Michigan Department of Community Health, Michigan
Department of Agriculture, Michigan Department of Natural
Resources, USDA's Area Veterinarian In Charge, Michigan
State Police Office of Emergency Preparedness, US Wildlife
Services, Michigan State University Extension. 2005 to
2007. Re-activated 2021.

Member, Advisory Board, Michigan Animal Health Emergency
Management, Michigan Department of Agriculture, 2000.

Member, Board of Directors, Michigan Allied Poultry Industries, Incorporated, June 2005 to 2015.

Guest member, Michigan Allied Poultry Industries, Incorporated, Board of Directors, 1994 - 2005, 2016 to present

Past Member and scientific advisor, Michigan Allied Poultry Industries, Incorporated, Board of Directors, subcommittee on Quality Assurance Program for Michigan's Egg Industry 2000.

Co-Official State Agent and Scientific advisor, Michigan's National Poultry Improvement Plan, 1994 to present.

Advisory Board Member, Michigan Association of Gamebird Breeders and Hunting Preserves, 1994 to present.

Moderator and committee member, Emerging Diseases Section, Michigan Veterinary Medical Conference, East Lansing, Michigan, 2016, 2018, 2019.

Co-Moderator, 14th Annual Phi Zeta Research Day Oral Presentations, College of Veterinary Medicine, Michigan State University, October 14, 2004.

EXCELLENCE IN SERVICE TO MICHIGAN STATE UNIVERSITY UNIVERSITY

Member, Safe Environment Task Force, Subcommittee Office of the Provost, 2023.

Chair, Michigan State University Committee on Faculty Affairs, 2019 to 2022.

Member, Michigan State University Committee on Faculty Affairs, 2014 to August 2022.

Member, Michigan State University Committee on Faculty Affairs subcommittee on Budget, 2014 to 2022.

Michigan State University Committee on Faculty Affairs' representative to MSU Board of Trustees, 2019 to 2022.

Member, Michigan State University, Re-opening Committee, Budget and Finance, 2020.

Member Search Committee, Chief Financial Officer, Michigan State University, 2020 and 2021.

Alternate member, Michigan State University Committee on Faculty Affairs' Discipline Review Panel, 2017.

Panel discussant, Your Best Practices and Advice to Early Career Faculty re: International Research Engagement. Academy for Global Engagement scholars. J. B. Henry Center for Executive Development, Michigan State University, East Lansing, Michigan, February 26, 2015.

Chair and Research Representative, Containment Operations Group, a committee involved with the day-to-day management of MSU's Food Safety and Toxicology research containment facility, 2000 to 2005.

Member, Research Representative, Containment Operations Group, a committee involved with the day-to-day management of MSU's Food Safety and Toxicology research containment facility, 1995 to 2000, 2005 to 2007.

COLLEGE OF VETERINARY MEDICINE

Member, College of Veterinary Medicine, Graduate and Medical Student Rights and Responsibilities Faculty Hearing Committee, 2021 and 2022.

Chair, College of Veterinary Medicine, College Advisory Committee, 2018 and 2019.

Member, College of Veterinary Medicine, College Advisory Committee, 2016 to 2020.

Member, Transition Committee, College of Veterinary Medicine, Diagnostic Center for Population and Animal Health and Veterinary Teaching Hospital, 2004 and 2005.

Member, Ad Hoc Committee on Security, Safety, and Infectious Diseases, College of Veterinary Medicine, 2003 to 2006.

Member, College of Veterinary Medicine, Committee on Graduate Grievance Hearings, 2010 to 2013.

Chair, Committee on Diversity and Affirmative Action, College of Veterinary Medicine, 2005 to 2007.

Member, Committee on Diversity and Affirmative Action, College of Veterinary Medicine, 2003 to 2005 and 2017 to 2018.

Member, College of Veterinary Medicine, Library Committee, 1996 to 2002.

Member, College of Veterinary Medicine, Ad Hoc Committee on Life Long Education, Department of Pathology Representative, 1996 to 2002.

Member, College of Veterinary Medicine, Future Search Committee, 1997 and 2003.

Judge, Best student presentation, Phi Zeta Day, Michigan State University, October 20, 2005.

DEPARTMENTAL AND DIAGNOSTIC LABORATORY

Section Chief, Anatomic Pathology and Necropsy Section, Diagnostic Center for Population and Animal Health, Michigan State University, Lansing, Michigan 48910, 2001 to 2006.

Led the Necropsy Section during the design, move, standard operating procedure (SOP) development and implementation phases as this section moved from the old facilities located at the Veterinary Medical Complex (VMC) to the new location on Beaumont Road. Served on the team to select the new laboratory information system (Cerner, a human hospital software system) along with its development and customization to our veterinary diagnostic laboratory. Implemented and enforced drastic changes in biosecurity and biosafety. During the first three years of my tenure in this position, I successfully dealt with laying off a staff member, a racial incident and a sexual harassment incident. These incidences were in addition to attempts at behavioral modification of staff and faculty. Responsible for the supervision of 11 faculty and 6 staff members.

Member, Steering Committee, Diagnostic Center for Population and Animal Health Advisory Committee guidance committee for the new laboratory operating system, 2001 to 2006.

Member, Build Team, Diagnostic Center for Population and Animal Health Advisory Committee, a team responsible for building the new laboratory operating system, 2003 to 2005.

Member, Reorganization Committee for Organizational Structure, Diagnostic Anatomic Pathologist, Diagnostic Center for Population and Animal Health, 2005.

Member, Diagnostic Center for Population and Animal Health's Empowered Performance Strategic Plan Prioritization Committee, December 2006.

Member, Search Committee, Anatomic Pathologist, Department of Veterinary Pathobiology and Animal Health Diagnostic Laboratory, Michigan State University, 2001.

Member, Search Committee, Diagnostic Anatomic Pathologist, Diagnostic Center for Population and Animal Health, 2005-2006.

Member, Search Committee, Assistant Professor of Animal Science, Poultry Extension, Department of Animal Science, College of Agriculture and Natural Resources, 2011.

Member, Search Committee, Poultry Extension Specialist, Department of Animal Science, College of Agriculture and Natural Resources, 2006, 2017, 2018.

Member, Merit Raise Advisory (Peer Review) Committee, Animal Health Diagnostic Laboratory, College of Veterinary Medicine, 1997, 2006.

Chair, Search Committee, Anatomic Pathologist/Immunologist, Pathobiology and Diagnostic Investigation, 2022 to present.

Chair, Peer Review Committee, Pathobiology and Diagnostic Investigation, College of Veterinary Medicine, 2012.

Member, Peer Review Committee, Pathobiology and Diagnostic Investigation, College of Veterinary Medicine, 2020-2022.

Member, Peer Review Committee, Pathobiology and Diagnostic Investigation, College of Veterinary Medicine, 2009-2011.

Member, Departmental Training Programs, Pathobiology and Diagnostic Investigation, College of Veterinary Medicine, 2002-2004.

Member, National Research Service Award (NRSA) Institutional Training Grant (T32), Comparative Medicine, NIH, Department of Pathobiology and Diagnostic Investigation, Training Grant Committee, 2001.

OTHER

Member, Search Committee, ARS-X2W-2311R Veterinary Medical Officer, GS-12/13, USDA, Agriculture Research Services, Avian Disease and Oncology Laboratory, 3606 East Mount Hope Road, East Lansing, Michigan 48823, 2002, 2003, 2004.

Member, Search Committee, ARS-X3W-3089 Microbiologist,
GS-12/13/14, USDA, Agriculture Research Services, Avian
Disease and Oncology Laboratory, 3606 East Mount Hope Road,
East Lansing, Michigan 48823, 2003, 2004.

GRADUATE COMMITTEE ASSIGNMENTS

Carol J. Cardona, Doctor of Philosophy, Department of Pathology,
Michigan State University. Title of Ph.D. *In Vitro* and *In Vivo*
Characterization of the Hexon of Hemorrhagic Enteritis Virus of
Turkeys (Type II Aviadenovirus). December 1997

Ping Wu, Doctor of Philosophy, Department of Pathology, Michigan
State University. Functional analysis of glycoprotein H and L
complex of Marek's disease viruses. August 1998

Susan Michelle Williams, Doctor of Philosophy, Department of
Pathology, Michigan State University, Immunopathogenesis of Avian
Leukosis Virus Subgroup J in White Leghorn Chickens, April 2001.

Xiaoping Cui, Doctor of Philosophy, Department of Pathology,
Michigan State University, The Role of Interleukin-8 Like Gene
(vIL-8) In the Pathogenesis of Marek's Disease. December 2003.

Arun Kumar R. Pandiri, Doctor of Philosophy, Department of
Pathology, Michigan State University, Factors That Influence
Immune Responses to Avian Leukosis Virus Subgroup J (ALV J) in
Broiler Breeder Chickens, June 2005.

Jayne L. Kalbfleisch, Doctor of Philosophy, Department of Animal
Science, Michigan State University, Vitamin D3 on bone strength in
Turkeys. Withdrew before thesis completion.

John Dunn, Doctor of Philosophy, Pathobiology and Diagnostic
Investigation, Michigan State University, Marek's Disease Virus
Superinfection: The Effect of Viral Dominance and Exposure
Intervals, 2009

Bilge Yondem, Master of Science, Department of Pathology, Michigan
State University, Influence of Marek's Disease Virus on Subgroup
J Avian Leukosis Virus Infection in Meat-type Chickens, 2000

Tonia L. Peters, Master of Science, Department of Animal Science,
Michigan State University, Antibiotics Inhibit *In Vitro* But Not *In*
Vivo Cartilage Degradation, November 2000.

Heidi A. Doza, Master of Science, Department of Animal Science,
Michigan State University, Pecking Behavior in Two Genetic Vintages
of Turkeys, December 2000.

Martin F. Ledwaba, Master of Science, Department of Animal Science,
Michigan State University, Efficacy of 25-Hydroxycholecalciferol

on the Prevention of Tibial Dyschondroplasia in Ross Broiler Chicks, May 2002

Geetha S. Kumar, Master of Science, Department of Animal Science, Michigan State University, Effects of Monensin and Sodium Chlorate on *Salmonella* Infantis Colonization in Broilers, October 2002

Andrea Valentina Mendoza, Improving Current Mass Depopulation Methods for an Emergency Response in Cage-Free Housing System. Master of Science, Department of Animal Science, Michigan State University, 2021 to 2023.

EXCELLENCE IN SCHOLARLY ACTIVITY

WRITTEN COMMUNICATION

BOOK SECTIONS EDITED AND UPDATED

Bacterial diseases in Avian Disease Manual, 7th Edition, American Association of Avian Pathologists, Jacksonville, Florida, pp. 74-139, 2013.

Bacterial diseases in Avian Disease Manual, 8th Edition, American Association of Avian Pathologists, Jacksonville, Florida, 2019.

BOOK CHAPTERS

Fulton, R. M., and C. O. Thoen. Tuberculosis. Other Bacterial Diseases. In Y. M. Saif, H. J. Barnes, J. R. Glisson, A. M. Fadly, L. R. McDougald, and D. E. Swayne (Eds) Diseases of Poultry, 11th Edition, Iowa State Press, Ames, Iowa, pp. 836-844, 2003.

Fulton, R. M., and S. Sanchez. Tuberculosis. Other Bacterial Diseases. In Y. M. Saif, A. M. Fadly, J. R. Glisson, L. R. McDougald, L. K. Nolan, and D. E. Swayne (Eds), Diseases of Poultry, 12th Edition, Blackwell Publishing, Ames, Iowa, pp.940-951, 2008.

Fulton, R. M., and S. Sanchez. Tuberculosis. Other Bacterial Diseases. In D. E. Swayne, J. R. Glisson, L. R. McDougald, L. K. Nolan, D.L. Suarez, and V. Nair (Eds), Diseases of Poultry, 13th Edition, Blackwell Publishing, Ames, Iowa, pp.1008-1017, 2013.

S. Sanchez and **R. M. Fulton**. Tuberculosis. Other Bacterial Diseases. In D. E. Swayne, J. R. Glisson, L. R. McDougald, L. K. Nolan, D.L. Suarez, and V. Nair (Eds), Diseases of Poultry, 14th Edition, Blackwell Publishing, Ames, Iowa, 2020.

Fulton, R. M. Toxins and Poisons. In Y. M. Saif, A. M. Fadly, J. R. Glisson, L. R. McDougald, L. K. Nolan, and D. E. Swayne (Eds),

Diseases of Poultry, 12th Edition, Blackwell Publishing, Ames, Iowa, pp. 1231-1258, 2008.

Fulton, R. M. Toxins and Poisons. In D. E. Swayne, J. R. Glisson, L. R. McDougald, L. K. Nolan, D.L. Suarez, and V. Nair (Eds), Diseases of Poultry, 13th Edition, Blackwell Publishing, Ames, Iowa, pp. 1287-1315, 2013.

Fulton, R. M. Other Toxins and Poisons. In D. E. Swayne, J. R. Glisson, L. R. McDougald, L. K. Nolan, D.L. Suarez, and V. Nair (Eds), Diseases of Poultry, 14th Edition, Blackwell Publishing, Ames, Iowa, 2020.

Sanchez, S. and **R. M. Fulton.** Tuberculosis. A Laboratory Manual for the Isolation and Identification of Avian Pathogens, American Association of Avian Pathologists, Fifth Edition, pp. 53-58, 2008.

Sanchez, S. and **R. M. Fulton.** Mycobacterium avium. A Laboratory Manual for the Isolation and Identification of Avian Pathogens, American Association of Avian Pathologists, Sixth Edition, pp. 55-62, 2016.

Fulton, R. M., Respiratory Diseases of Gamebirds, In T. Morishita and R. Porter, Gamebird Medicine and Management, John Wiley & Sons, Ames, Iowa, pp. 143-151, 2022.

Fulton, R. M., Toxicological Diseases of Gamebirds, In T. Morishita and R. Porter, Gamebird Medicine and Management, John Wiley & Sons, Ames, Iowa, pp. 245-248, 2022.

Fulton, R. M., Avian Influenza and Viscerotropic Velogenic (Exotic) Newcastle Disease. In C. B. Greenacre and T. Y. Morishita, Backyard Poultry Medicine and Surgery: A Guide for Veterinary Practitioners, John Wiley & Sons, Ames, Iowa, pp. 133-136, 2015.

Fulton, R. M., Avian Influenza and Viscerotropic Velogenic (Exotic) Newcastle Disease. In C. B. Greenacre and T. Y. Morishita, Backyard Poultry Medicine and Surgery: A Guide for Veterinary Practitioners, John Wiley & Sons, Ames, Iowa, pp. 229-233. 2021.

Fulton, R. M., Respiratory Diseases: Respiratory Diseases Common to Backyard Poultry. In C. B. Greenacre and T. Y. Morishita, Backyard Poultry Medicine and Surgery: A Guide for Veterinary Practitioners, John Wiley & Sons, Ames, Iowa, pp. 137-144, 2015.

Fulton, R. M., Respiratory Diseases: Respiratory Diseases Common to Backyard Poultry. In C. B. Greenacre and T. Y. Morishita, Backyard Poultry Medicine and Surgery: A Guide for Veterinary Practitioners, John Wiley & Sons, Ames, Iowa, pp. 218-228, 2021.

Fulton, R. M., Maintaining the health of laying hens: a practical approach. In J. Roberts, Achieving sustainable production of eggs, Volume 2: Animal welfare and sustainability. Burleigh Dodds Science

Publishing Limited, Sawston, Cambridge, United Kingdom, pp.145-161, 2017.

Fulton, R. M., Tuberculosis in Poultry. The Merck Veterinary Manual. Merck & Co., Kenilworth, New Jersey, 2019, 2020.

Fulton, R. M., Parvovirus infection of waterfowl (formerly Derzsy's disease, Goose hepatitis, Goose plague, and Muscovy duck parvovirus). The Merck Veterinary Manual. Merck & Co., Kenilworth, New Jersey, 2022.

PUBLISHED MANUSCRIPTS

Fulton, R. M., B. N. Nersessian and W. M. Reed. Prevention of *Salmonella enteritidis* Infection in Commercial Ducklings by Oral Chicken Egg-Derived Antibody Alone or in Combination with Probiotics. Poultry Science 81:34-40, 2002.

Fulton, R. M. and R. B. Rimler. Epidemiologic Investigation of *Riemerella anatipestifer* in a Commercial Duck Company by Serotyping and DNA Fingerprinting. Avian Diseases 54:969-972, 2010.

Fulton, R. M. Causes of Normal Mortality in Commercial Egg Laying Chickens. Avian Diseases 61:289-295, 2017.

Fulton, R. M. Health of Commercial Egg Laying Chickens in Different Housing Systems. Avian Diseases, 63:420-426, 2019.

Fulton, R. M., and R. Mani. Avian gastric yeast, *Macrorhabdus ornithogaster* and *Mycobacterium genavense* infections in a zoo budgerigar (*Melopsittacus undulatus*) flock. Avian Diseases, 64:561-564, 2020.

Fulton, R. M. Common Diseases of Michigan Gamebirds: A Retrospective Study. Avian Diseases, 65:26-29, 2021.

Fulton, R. M. and J. Buchweitz. Sulfaquinoxaline Toxicosis in a Juvenile Broiler Breeder Flock, Avian Diseases, submitted 2022.

Williams, S. M., **R. M. Fulton**, J. A. Render, L. Mansfield, M. Bouldin. Ocular and Encephalic Toxoplasmosis in Canaries. Avian Diseases 45:262-267, 2001.

Peters, T. L., **R. M. Fulton**, K. D, Roberson, and M. W. Orth. Effect of Antibiotics on In Vitro and In Vivo Avian Cartilage Degradation. Avian Diseases 46: 75-86, 2002.

S. H. Kleven, **R. M. Fulton**, M. Garcia, V. N. Ikuta, V. A. Leiting, T. Liu, D. H. Ley, K. N. Opengart, G. N. Rowland, and E. Wallner-Pendleton. Molecular Characterization of *Mycoplasma gallisepticum* Isolates from Turkeys. Avian Diseases 48:562-569, 2004.

D. C. Lay, **R. M. Fulton**, P. Y. Hester, D. M. Karcher, J. B. Kjaer, J. A. Mench, B. A. Mullens, R. C. Newberry, C. J. Nicol, N. P. O'Sullivan, and R. E. Porter. Hen Welfare in Different Housing Systems. in Emerging Issues: Social Sustainability of Egg Production Symposium. Poultry Science doi:10.3385/ps.2010-00962. pp. 1-17 2010.

R. A. Blatchford, **R. M. Fulton**, J. A. Mench. The Utilization of the Welfare Quality® Assessment for Determining Laying Hen Condition Across Three Housing Systems. Poultry Science 95:154-63, 2016.

Tsoi, M. F. and **R. M. Fulton**, West Nile Virus Induced Drop in Egg Production in Commercial Pekin Duck Breeders. Accepted Avian Diseases 2022.

Ellis, J.S, **R. M. Fulton**, A.F. Lehner, J. P. Buchweitz. Acute Inhalation Toxicity in Nine White Ibis (*Eudocimus Albus*) Following Exposure to Triethylene Glycol and Propylene Glycol Containing Theatrical Fog. Submitted J. Zoo. Wildlife Med. 2023.

Cao, W., J. Mays, J. Dunn, **R. M. Fulton**, R. Silva, and A. Fadly. Use of Polymerase Chain Reaction in Detection of Marek's Disease and Reticuloendotheliosis Viruses in Formalin-Fixed, Paraffin-Embedded Tumorous Tissues. Avian Diseases 57:782-789, 2013.

Lehner, A. F., J. Zykowski, **R.M. Fulton**, J. P. Buchweitz. Haloxypop Determination by Gas Chromatography-Tandem Mass Spectrometry in Eggs. Rapid Communication, Mass Spectrometry. 34(19) July 14, 2020. DOI:10.1002/rcm.8895

Kim, Joo-Sung, K. A. Antonovich, D. F. Hall, E. J. Smith, **R. M. Fulton**, J. Bell, L. Dybas, L. S. Mansfield, R. Templeman, D. L. Wilson, , and J. E. Linz. Passage of *Campylobacter jejuni* through the chicken reservoir or mice promotes phase variation in contingency genes *Cj0045* and *Cj0170* that strongly associates with colonization and disease in a mouse model. Microbiology 158:1304-1316, 2012.

Cao, W., J. Mays, G. Kulkarni, J. Dunn, **R. M. Fulton**, and A. Fadly. Further observations on serotype 2 Marek's disease virus-induced enhancement of spontaneous avian leukosis virus-like bursal lymphomas in ALVA6 transgenic chickens. Avian Pathology. 44:23-27, 2015.

Fitzgerald, S. D., J. S. Patterson, M. Kiupel, H. A. Simmons, S. D. Grimes, C. F. Sarver, **R. M. Fulton**, B. A. Steficek, T. M. Cooley, J. P. Massey, and J. G. Sikarskie. Clinical and Pathological Features of West Nile Virus Infection in Native North American Owls. (Family *Strigidae*) Avian Diseases 47:602-610, 2003.

J. R. Dunn, R. L. Witter, R. F Silva, L. F. Lee, J. Finlay, B. A. Marker, J. B. Kaneene, **R. M. Fulton** and S. D. Fitzgerald. The Effect of the Time Interval Between Exposures on the Susceptibility of Chickens to Superinfection with Marek's Disease Virus. Avian Diseases 54:1038-1049, 2010.

ORAL COMMUNICATION

SCIENTIFIC PRESENTATIONS WITH PAPERS

Fulton, R. M. Avian Influenza - Again? Michigan Veterinary Conference, Grand Rapids, Michigan, October 8, 2022.

Fulton, R. M. What Veterinary Technicians Should Know About Small Poultry Flocks: Restraint, Blood Testing, Medication, Euthanasia, and Necropsy. Michigan Association of Veterinary Technicians Annual Conference, Ypsilanti, Michigan, October 20, 2018.

Fulton, R. M. What Veterinary Technicians Should Know About Small Poultry Flocks: Management. Michigan Association of Veterinary Technicians Annual Conference, Ypsilanti, Michigan, October 20, 2018.

Fulton, R. M. What Veterinary Technicians Should Know About Small Poultry Flocks: Disease. Michigan Association of Veterinary Technicians Annual Conference, Ypsilanti, Michigan, October 20, 2018.

Fulton, R. M. Most Common Mistakes Small Flock Growers Make: How to Prevent Them. Michigan Veterinary Conference. Lansing, Michigan, January 26, 2018.

Fulton, R. M. Things to Consider When Treating Backyard Poultry. Michigan Veterinary Conference. Lansing, Michigan, January 26, 2018.

Fulton, R. M. What Can I Get From My Chickens? Michigan Veterinary Conference. Lansing, Michigan, January 26, 2018.

Fulton, R. M. Backyard Poultry: Tips for Protecting Client Health. **Featured speaker** in Public and Corporate Practice. American Veterinary Medical Association annual conference. Indianapolis, Indiana, July 23, 2017.

Fulton, R. M. What Veterinarians Need to Know About Management of Small Poultry Flocks. American Animal Hospital Association Convention, Austin, Texas, April 3, 2016.

Fulton, R. M. Most Common Mistakes Made by Small Poultry Flock Growers and How to Prevent Them. American Animal Hospital Association Convention, Austin, Texas, April 3, 2016.

Fulton, R. M. Most Common Diseases and Causes of Death in Small Poultry Flocks and How to Prevent Them. American Animal Hospital Association Convention, Austin, Texas, April 3, 2016.

Fulton, R. M. Spring 2015: Eurasian H5 Comes to North America. Michigan Veterinary Conference, Lansing, Michigan, January 29, 2016.

Karcher, D. M., **R. M. Fulton**, and D. Rozeboom. Laying Hen Depopulation in Various Commercial Housing Systems. 5th International Symposium on Managing Animal Mortality, Products, By Products, and Associated Health Risk. Lancaster, Pennsylvania, September 28 to October 1, 2015.

Fulton, R. M. Common Questions and Dilemmas of Small Poultry Producers. Michigan Veterinary Conference, Lansing, Michigan, February 1, 2015.

Fulton, R. M. What Veterinarians Need to Know About Small Flock Disease. Michigan Veterinary Conference, Lansing, Michigan, February 1, 2015.

Fulton, R. M. How, When and Why of Euthanasia. Organic and Specialty Poultry Workshop in Midwest Poultry Federation Convention, Saint Paul, Minnesota, March 13, 2013.

Fulton, R. M. Musculoskeletal Diseases of Egg Laying Chickens. Layer Health Management School, Michigan State University, East Lansing, Michigan, May 8, 2013.

Fulton, R. M. Layer Respiratory Anatomy, Physiology, and Diseases. Layer Health Management School, University of Wisconsin, Madison, Wisconsin, June 6, 2012.

Fulton, R. M. Diseases of Muscles and Skeleton of Pullets and Layers. Layer Health Management School, Purdue University, West Lafayette, Indiana, May 11, 2011.

Fulton, R. M. Respiratory Diseases of Laying Hens. Layer Health Management School, Purdue University, West Lafayette, Indiana, May 11, 2011.

Fulton, R. M. Respiratory Diseases of Egg Laying Chickens. Layer Health Management School, Ohio Agricultural Research and Development Center, Wooster, Ohio, May 5, 2010.

Sledge, D., **R. Fulton**, and I. Langhor. Band (Calcific) Keratopathy in a Chicken. 37th Annual South Eastern Veterinary Pathology Conference, Tifton, Georgia, May 2009.

Fulton, R. M. Respiratory Diseases of Broilers and Turkeys. Turkey and Broiler Health Management School, Michigan State University, East Lansing, Michigan, May 4, 2009.

Fulton, R. M. Respiratory Diseases of Egg Laying Chickens. Layer Health Management School, Michigan State University, East Lansing, Michigan, May 6, 2009.

Fulton, R. M. Respiratory Diseases of Egg Laying Chickens. Layer Health Management School, Purdue University, West Lafayette, Indiana, May 9, 2007.

Fulton, R. M. Musculoskeletal Diseases of Egg Laying Chickens. Layer Health Management School, Purdue University, West Lafayette, Indiana, May 9, 2007.

Fulton, R. M. Management-Related Respiratory Diseases of Laying Hens. Layer Health Management School, Ohio State University, Columbus, Ohio, May 10, 2006.

Fulton, R. M. Emerging and Re-Emerging Health Problems in Poultry, Layer Health Management School, Ohio State University, Columbus, Ohio, May 10, 2006.

Fulton, R. M. Management-Related Respiratory Diseases of Laying Hens. Layer Health Management School, Michigan State University, East Lansing, Michigan, May 11, 2005.

Fulton, R. M. Emerging and Re-Emerging Health Problems in Poultry, Multi-State Poultry Feeding and Nutrition Conference, Indianapolis, Indiana, May 27, 2004.

Fulton, R. M. Diseases of Pullets. Layer Health Management School, University of Wisconsin, Madison, Wisconsin, May 21 and 22, 2004.

Fulton, R. M. Respiratory Diseases of Laying Hens. Layer Health Management School, University of Wisconsin, Madison, Wisconsin, May 21 and 22, 2004.

Fulton, R. M. Musculoskeletal Anatomy, Physiology, and Diseases of Laying Hens, Layer Health Management School, Purdue University, May 8 and 9, 2003.

Fulton, R. M. Respiratory Diseases of Laying Hens, Layer Health Management School, Purdue University, May 8 and 9, 2003.

Fulton, R. M. Diseases of Pullets. Layer Health Management School, The Ohio State University, Columbus, Ohio, May 6 and 7, 2002.

Fulton, R. M. Respiratory Diseases of Laying Hens. Layer Health Management School, The Ohio State University, Columbus, Ohio, May 6 and 7, 2002.

SCIENTIFIC PRESENTATIONS WITH ABSTRACTS

Fulton, R. M. and D. Frame. Online Poultry Medicine Certificate Course for Practicing Veterinarians. American Association of Avian Pathologists' Annual Meeting, June 12, 2023, Jacksonville, Florida.

Fulton, R. M. West Nile Virus Infection in a Developer Pekin Duck Flock. American Association of Avian Pathologists' Annual Meeting, August 1, 2022, Philadelphia, Pennsylvania.

Fulton, R. M. Suspected Sulfonamide Toxicosis in a Broiler Breeder Flock. American Association of Avian Pathologists' Annual Meeting, August 1, 2021, Zoom-based Conference.

Fulton, R. M. What Happens When You Feed Layer Ration to Chickens from 8 to 14 Weeks of Age. American Association of Avian Pathologists' Annual Meeting, August 2, 2020, Zoom-based Conference.

Tsoi, M. F. and **R. M. Fulton**, Reoccurrence of West Nile Virus Infection in Pekin Breeder Ducks Associated with a Drop in Egg Production. American Association of Avian Pathologists' Annual Meeting, August 1, 2022, Philadelphia, Pennsylvania.

Buchweitz, J. P., **R. M. Fulton**, and J. Zyskowski. Sulfaquinoxaline toxicosis in poultry with quantitation in blood and tissue by liquid chromatography tandem quadrupole mass spectrometry. American Association of Veterinary Laboratory Diagnosticians Annual Meeting, October 25, 2021, Denver, Colorado.

Fulton, R. M. Providing Poultry Disease Education in Myanmar. American Association of Avian Pathologists' Annual Meeting held in conjunction with the AVMA convention, August 4, 2019, Washington DC.

Fulton, R. M. Causes of Splenomegaly in Ducks. 70th North Central Avian Disease Conference, Minneapolis, Minnesota, March 11, 2019.

Coe, S., **R. M. Fulton**, D. Sledge. Palpebral pox in a turkey. Turkey Run State Park, Marshall, Indiana, September 7, 2019.

Fulton, R. M. *Streptococcus gallolyticus* subsp. *pasteurianus* in ducklings. American Association of Avian Pathologists' Annual Meeting held in conjunction with the AVMA convention, Denver, Colorado, July 15, 2018.

Fulton, R. M., A. Lehner, and J. P. Buchweitz. Avian Influenza or Fungicide: That is the Question. American Association of Avian Pathologists' Annual Meeting held in conjunction with the AVMA convention, Indianapolis, Indiana, July 23, 2017.

Fulton, R. M. *Leucocytozoon* sp. in a flock of 4-Week-Old Ducklings. American Association of Avian Pathologists' Annual Meeting held in conjunction with the AVMA convention, San Antonio, Texas August 7, 2016.

Fulton, R. M. Predation of a Flock of Mallard Cross Ducklings. American Association of Avian Pathologists' Annual Meeting held in conjunction with the AVMA convention, San Antonio, Texas August 7, 2016.

Fulton, R. M. Erysipelas, Non-ICA H5N2 Avian Influenza, and Aspergillosis in a Flock of Release for Hunting Mallard Ducklings. 66th North Central Avian Disease Conference, St. Paul, Minnesota. March 14, 2016.

Fulton, R. M., Aly Fadly and Andrew Allison. Pox and Suspected Lymphoproliferative Disease of Turkeys in a Domestic Turkey. American Association of Avian Pathologists' Annual Meeting held in conjunction with the AVMA convention, Boston, Massachusetts, July 12, 2015.

Fulton, R. M. and Matti Kiupel. West Nile Virus Infection in Domestic Turkeys? American Association of Avian Pathologists' Annual Meeting held in conjunction with the AVMA convention, Boston, Massachusetts, July 12, 2015.

Pyle, David A. and **R. M. Fulton.** Case Report: Acute Lasalocid Toxicity in Market Age Commercial Tom Turkeys. American Association of Avian Pathologists' Annual Meeting held in conjunction with the AVMA convention, Boston, Massachusetts July 12, 2015.

Fulton, R. M. *Streptococcus bovis* in Ducklings, What Does it Mean? 65th North Central Avian Disease Conference, St. Paul, Minnesota, March 16, 2015.

Fulton, R. M. Regional Disease Update: Midwest. 86th Northeastern Conference on Avian Diseases, State College, Pennsylvania, September 24, 2014.

Fulton, R. M. Black Spots on Processed Duckling Legs. American Association of Avian Pathologists' Annual Meeting held in conjunction with the AVMA convention, Denver, Colorado, July 28, 2014.

Fulton, R. M. *Haemoproteus* sp. in a Flock of Red-Breasted Geese (*Branta ruficollis*). American Association of Avian Pathologists' Annual Meeting held in conjunction with the AVMA convention, Denver, Colorado, July 28, 2014.

Fulton, R. M. Why biosecurity is important in the duck industry. 65th North Central Avian Disease Conference, St. Paul, Minnesota, March 17, 2014.

Fulton, R. M. Effect of Laying Hen Housing on Hen Health: Preliminary Findings. American Association of Avian Pathologists' Annual Meeting held in conjunction with the AVMA convention, Chicago, Illinois, July 23, 2013.

Fulton, R. M. Flock Mortality in Chukkar Partridges due to Tapeworms (*Raillietina* sp.). American Association of Avian Pathologists' Annual Meeting held in conjunction with the AVMA convention, Chicago, Illinois. July 23, 2013.

Makagon, M. M., R. L. Woolley, **R. M. Fulton**, and D. M. Karcher. Can a duck's waddle serve as an accurate indicator of lameness? Poultry Science Association Annual Meeting, San Diego, California, July 22, 2013.

C. I. Robison, M. M. Makagon, **R. M. Fulton**, and D. M. Karcher. Duck gait score: Relationship to hip angle, bone ash, bone density and morphology. Poultry Science Association Annual Meeting, San Diego, California, July 22, 2013.

Fulton, R. M., Common Causes of Laying Hen Mortality. American Association of Avian Pathologists' Annual Meeting held in conjunction with the AVMA convention, San Diego, California, August 7, 2012.

Aly M. Fadly, Weisheng Cao, **Richard M. Fulton**, Jody K. Mays, John R. Dunn and Robert F. Silva. Use of Polymerase Chain Reaction (PCR) in Diagnosis of Marek's Disease and Reticuloendotheliosis in Formalin-Fixed, Paraffin- Embedded Tumorous Tissues. American Association of Avian Pathologists' Annual Meeting held in conjunction with the AVMA convention, San Diego, California, August 5, 2012.

Fulton, R. M. and J. G. Hunchar. Otitis Externa in Chickens due to *Staphylococcus hyicus*? American Association of Avian Pathologists' Annual Meeting held in conjunction with the AVMA convention, St. Louis, Missouri, July 17, 2011.

Fulton, R. M. and M. Kiupel. Necrotizing Hepatitis in Pigeons due to *Toxoplasma gondii*. American Association of Avian Pathologists' Annual Meeting held in conjunction with the AVMA convention, St. Louis, Missouri, July 17, 2011.

Fulton, R. M. Biosecurity and Highly Pathogenic Avian Influenza Outbreak Response Training in Transnistria and Egypt. American Association of Avian Pathologists' Annual Meeting held in conjunction with the AVMA convention, Atlanta, Georgia, August 2, 2010.

Fulton, R. M. and T. P. Mullaney. Large death loss in captive/release Mallard ducks due to *Pasteurella multocida*. American Association of Avian Pathologists' Annual Meeting held in conjunction with the AVMA convention, Seattle, Washington, July 13, 2009.

Fulton, R. M. J. Jagne, and R. R. Graham. Lessons learned preparing developing countries for highly pathogenic H5N1 avian influenza. American Association of Avian Pathologists' Annual Meeting held in conjunction with the AVMA convention, New Orleans, Louisiana, July 21, 2008.

Fulton, R. M. Selenium Toxicosis in Pekin Ducklings? American Association of Avian Pathologists' Annual Meeting held in conjunction with the AVMA convention, Washington DC, July 18, 2007.

Fulton, R. M. Symposium speaker. H5N1 Preparation: Lessons learned in Michigan. Symposium on Lessons Learned in AI Preparation, 58th North Central Avian Disease Conference, Saint Paul, Minnesota, March 13, 2007.

Fulton, R. M. and W. K. Rumble. "Kock Down" in Laying Hens. American Association of Avian Pathologists' Annual Meeting held in conjunction with the AVMA convention, Philadelphia, Pennsylvania, July 27, 2004.

K. D. Roberson, **R. M. Fulton**, R. A. Charbeneau, J. L. Kalbfleisch, W. Pan, and R. J. Balander. Phytase in Pullet/Layer Diets Does Not Cause Gout or Soft Bones in Commercial Laying Hens. World Poultry Science Association Meeting, Ankara, Turkey, 2004.

Fulton, R. M. R. Maes and C. Han. Epidemiologic Investigation of Infectious Laryngotracheitis in Michigan Chickens via Restriction Pattern Analysis. American Association of Veterinary Laboratory Diagnosticians' Annual Meeting, St. Louis, Missouri, October 19, 2002.

Fulton, R. M. R. Maes and C. Han. Response to Challenge of Four Michigan Infectious Laryngotracheitis Virus Isolates, American Association of Avian Pathologists' Annual Meeting held in conjunction with the AVMA convention, Nashville, Tennessee, July 15, 2002.

Fulton, R. M. R. Maes and C. Han. Pathologic Characterization of Four Michigan Infectious Laryngotracheitis Virus Isolates, American Association of Avian Pathologists' Annual Meeting held in conjunction with the AVMA convention, Boston, Massachusetts, July 18, 2001.

INVITED SCIENTIFIC PRESENTATIONS

Fulton, R. M. Avian Influenza: An understanding of the disease, epidemiology, and way forward. August 9 and 11, 2023, Arm & Hammer Poultry Health and Nutrition Technical Symposium, Bangalore and Delhi, India.

Fulton, R. M. Newcastle Disease (ND) and Infectious Bronchitis (IB): Continuous threat to poultry - understanding and prevention. August 9 and 11, 2023, Arm & Hammer Poultry Health and Nutrition Technical Symposium, August 9 and 11, 2023, Bangalore and Delhi, India.

Fulton, R. M. Reconceptualize Vaccines and Vaccination. August 10 and 12, 2023, Arm & Hammer Poultry Health and Nutrition Technical Symposium, Bangalore and Delhi, India.

Fulton, R. M. Emerging and Re-emerging Diseases: Tools of Discovery. **Keynote Speaker**, North Central Avian Disease Conference. Minneapolis, Minnesota, March 21, 2022.

Fulton, R. M. Musculoskeletal dysfunction: Effect of housing on layer health. Poultry Health Management School. Purdue University, West Lafayette, Indiana, May 19, 2022.

Fulton, R. M. NPIP History and the role of the Official State Agent - An Advisor's View. National Poultry Improvement Plan (NPIP) Official State Agency Meeting, Zoom Webinar. July 20, 2021.

Fulton, R. M. Fowl Cholera in Caged Laying Hens. American Veterinarians in Egg Production Webinar. April 3, 2020.

Fulton, R. M. What Can I Get From My Chickens? Michigan Veterinary Conference. Lansing, Michigan, January 26, 2018.

Fulton, R. M. Viral, Bacterial, Parasitic, Fungal, and Metabolic Diseases of Poultry. Three hours of lecture to attendees at the C. L. Davis 41st Annual Gross Pathology Review Course, Michigan State University, East Lansing, Michigan, July 16, 2014.

Fulton, R. M. Enteric Diseases of Ducks, North Central Avian Disease Conference, St. Paul, Minnesota, March 12, 2012.

Fulton, R. M. Duck Diseases and the Duck Industry's Response, North Central Avian Disease Conference, St. Paul, Minnesota, March 15, 2011.

Fulton, R. M. Diseases of Commercial Turkeys. 2006 C. L. Davis Foundation, AAVLD Diagnostic Pathology Seminar. Avian Diagnostic Pathology. Minneapolis, Minnesota, October 13, 2006. Copy of presentation given to C.L. Davis attendees.

Fulton, R. M. Diseases of Gamebirds. 2006 C. L. Davis Foundation, AAVLD Diagnostic Pathology Seminar. Avian Diagnostic Pathology. Minneapolis, Minnesota, October 13, 2006. Copy of presentation given to C.L. Davis attendees.

Fulton, R. M. Avian Influenza - The Agent. Bird Flu: The Next Pandemic?, a symposium for the International Education Week, International Center, Michigan State University, East Lansing, Michigan, November 17, 2005.

SCIENTIFIC POSTERS WITH ABSTRACTS

R. M. Fulton. Budgerigar (*Melopsittacus undulatus*) Ventriculitis Associated with Millet. American Association of Avian Pathologists' Annual Meeting, June 11 - 13, 2023, Jacksonville, Florida.

R. M. Fulton. Metastatic Melanoma of Ocular Origin in a Duck. American Association of Avian Pathologists' Annual Meeting. August 2, 2021. Zoom-based Conference.

R. M. Fulton, M. Kiupel, and S. Bolin. West Nile Virus Infection in Commercial Duck Breeder Flocks. American Association of Avian Pathologists' Annual Meeting. August 5, 2020. Zoom-based Conference.

A. Van der Swaagh, **R. Fulton,** D. Rozeboom, M. Millerick-May, and Z. Williams. Pre-compost carcass reduction and mixing as a method of laying hen carcass preparation for composting during a disease outbreak. International Poultry Scientific Forum, Atlanta, Georgia, January 27 -28, 2020.

R. M. Fulton and R. Mani. Megabacteriosis, *Macrorhabdus ornithogaster* and *Mycobacterium genavense* in a Zoo Budgerigar Flock. American Association of Avian Pathologists' Annual Meeting held in conjunction with the AVMA convention, Washington DC, August 2 - 5, 2019.

R. M. Fulton and R. M. Smith. Teaching Poultry Necropsy Techniques to Afghan Veterinary Students. American Association of Avian Pathologists' Annual Meeting held in conjunction with the AVMA convention, Washington DC, July 15 - 18, 2007.

R. M. Fulton and R. M. Smith. Teaching Poultry Diseases and the Importance of Poultry in Afghanistan. American Association of Avian Pathologists' Annual Meeting held in conjunction with the AVMA convention, Honolulu, Hawaii, July 16 - 19, 2006.

R. M. Fulton and C. A. Bolin. Microbiological Evaluation of Pekin Duck Baluts. American Association of Avian Pathologists' Annual Meeting held in conjunction with the AVMA convention, Minneapolis, Minnesota, July 17-20, 2005.

R. M. Fulton and L. D. Schwartz. Retrospective Study of Diseases of Michigan Game Birds. American Association of Avian Pathologists' Annual Meeting held in conjunction with the AVMA convention, Denver, Colorado, July 19-23, 2003.

MANUSCRIPTS REVIEWED

Invited Reviewer, Avian Diseases, 2003, 2004, 2005, 2006, 2010, 2012 (2 manuscripts), 2013 (3 manuscripts), 2014 (2 manuscripts), 2015, 2016 (3 manuscripts), 2017 (4 manuscripts), 2018 (3 manuscripts), 2019 (7 manuscripts), 2020 (11 manuscripts), 2021 (12 manuscripts), 2022 (5 manuscripts).

Invited Reviewer, Journal of Veterinary Diagnostic Investigation, 2006, 2019, 2020 (1 manuscript).

Invited Reviewer, Avian Pathology, 2007 (3 manuscripts), 2008.

Invited Reviewer, Journal of Food Protection, 2007.

Invited Reviewer, Journal of Applied Poultry Research, 2007, 2020 (1 manuscript).

Invited Reviewer, Poultry Science, 2010 (2 manuscripts), 2012

Invited Reviewer, Clinical and Vaccine Immunology, 2012.

Invited Reviewer, Macedonian Veterinary review, 2014, 2019.

Invited Reviewer, Veterinary Pathology, 2016, 2020 (2 manuscripts), 2022.

EXCELLENCE IN RESEARCH

RESEARCH GRANTS FUNDED

R. M. Fulton, G. Slacum. TS 01-02: Evaluation of 6/85 Efficacy Following Administration with Different Vaccination Sprayers. Intervet, \$7,810, 2001.

K. D. Roberson and **R. M. Fulton**. Phytase for Pullets and Layers - A Possible Cause for Gout and Soft Bones? Michigan State University, Animal Initiative Industry Coalition, \$12,500, 2001.

R. M. Fulton. Initiating a teaching lab at Kabul University under the improving livestock health component of the PASA with USAID, \$11,183, 2005. (100% effort)

D. Clay and **R. M. Fulton.** Assessment and strengthening of the government of Rwanda's national plan against high pathogenicity avian influenza. United States Agency for International Development, \$28,935, 2006. (100% effort)

R. M. Fulton. Training of laboratory equipment at Kabul University, Kabul, Afghanistan. USDA/CREES, \$14,165, 2006. (100% effort)

R. M. Fulton. Equipment training of laboratory personnel at Kabul University, Kabul, Afghanistan. USDA/CREES, \$17,469, 2007. (100% effort)

S. Bolin, R. Maes, **R. Fulton,** A. Wise, J. Lloyd. Molecular Diagnostic assays for avian influenza virus. Agricultural Research Service, \$100,000, 2007. (5% effort)

D. Clay and **R. M. Fulton.** STOP AI (Avian Influenza) \$297,694. 2008. (100%)

D. Karcher, J. Swanson, J. Siegford, J. Steibel, M. Orth, **R. M. Fulton,** S. Biswas, and R. Haut. Sustainable egg supply in alternative housing systems for laying hens. Center for Food Integrity, \$2,593,074, 2010 to 2014. (15% effort)

Z. Williams, **R. Fulton,** I. Miller, and D. Rozeboom. Impact of Carcass Reduction and Composting Mixing on Potential for Aerosol Dispersion of Virus and the Expediency and Effectiveness of the Composting Process in Virus Destruction. Animal Initiative Industry Coalition. \$74,000, 2018 - 2022. (2.0% effort)

M. F. Tsoi, **R. M. Fulton,** J. Buchweitz, A. Gerras, C. Howard. Development of a Postmortem Test for Hypocalcemia in Laying Hens. Michigan Alliance for Animal Agriculture. \$15,618, 2022-2024.

COLLABORATIVE EFFORTS BUT NOT INCLUDED ON GRANT

Quantitative Assessment of Laying Hen Well-Being by Measuring Resource Use and Movements Using Wireless Body-Mounted Sensor Systems. Janice Siegford, Department of Animal Science, USDA 2009.

Effects of Ebola Virus Glycoproteins on Chickens Using Avian Leukosis Virus Derived Vector. Jerry Dodson and Bill Payne, Department of Microbiology, MSU. 2005 to December 2006.

Salmonella enteritidis Invasiveness in Egg Laying chickens. Mahdi Saeed, Food Safety and Toxicology. 2005 to 2006.

Identification of Molecular Mechanisms of Stress Resistance in Turkeys to Improve Meat Quality. Winnie Chiang, Gale Strasbourg and Al Booren, Department of Food Science and Human Nutrition. 2005 to 2008.

RESEARCH GRANTS NOT FUNDED

Jason Hofman, Tina Conklin, **R. Fulton**. Salmonella Intervention Procedure Development. Miller Poultry Company, 2020. (5% effort)

M. Wilkins, A. Huff, **R. Fulton**, M. Milbrath, and B. Norby. The Michigan State University Continuing Education for Practice Expansion (CEPE) Project. USDA-NIFA-VSGP-006543, Education, Extension, and Training Grant. \$249,683, 2018. (2.8% effort)

Effect of Cage Washing and Modified Atmosphere Stunning on Salmonella Load During Poultry Harvesting Operations as Compared to Traditional Stunning and Handling Methods. Jason Hofman, **Richard M. Fulton**, Jeannine Schweihofer, Bill Knudson, and Tina Conklin. \$113,780 Michigan Alliance for Animal Agriculture, 2017.

D. Rozeboom, M. Millerick-May, **R. M. Fulton**. Impact of Carcass Reduction and Composting Mixing on Potential for Aerosol Dispersion of Virus and the Expediency and Effectiveness of the Composting Process in Destroying Virus. U.S. Poultry & Egg Association, \$124,959. 2017.

M. Wilkins, A. Rashmir, **R. M. Fulton**, D. Karcher. Using Innovative Distance Education Tool to Keep Rural Practitioners Current and Their Practices Healthy. USDA, NIFA, VSGP Grant. \$232,622. 2016.

D. Rozeboom, D. Karcher, **R. M. Fulton**, W. Powers-Schilling and M. Millerick-May,. Impact of Mechanical Carcass Reduction and Pre-Composting Mixing on Aerosol Spread of Virus and the Expediency and Effectiveness of the Composting Process in Destroying Virus. U.S. Poultry & Egg Association, \$124,925. 2016.

R. M. Fulton. Gathering Multistate Egg Producer Support for Egg Movement in Avian Influenza. Michigan Alliance for Animal Agriculture. \$8,000. 2014.

R. Van Wyhe, **R. M. Fulton**, and D. M. Karcher. Influencing turkey hatchability and intestinal development using in ovo probiotics. U.S. Poultry & Egg Association, \$43, 141. 2011. (20% effort)

GRADUATE COMMITTEE ASSIGNMENTS

Susan Michelle Williams, Doctor of Philosophy, Department of Pathology, Michigan State University, Immunopathogenesis of Avian Leukosis Virus Subgroup J in White Leghorn Chickens, April 2001.

Xiaoping Cui, Doctor of Philosophy, Department of Pathology, Michigan State University, The Role of Interleukin-8 Like Gene (vIL-8) In the Pathogenesis of Marek's Disease. December 2003.

Arun Kumar R. Pandiri, Doctor of Philosophy, Department of Pathology, Michigan State University, Factors That Influence Immune Responses to Avian Leukosis Virus Subgroup J (ALV J) in Broiler Breeder Chickens, June 2005.

Jayne L. Kalbfleisch, Doctor of Philosophy, Department of Animal Science, Michigan State University, Vitamin D3 on bone strength in Turkeys. Withdrew before thesis completion.

John Dunn, Doctor of Philosophy, Pathobiology and Diagnostic Investigation, Michigan State University, Marek's Disease Virus Superinfection: The Effect of Viral Dominance and Exposure Intervals, 2009.

Martin F. Ledwaba, Master of Science, Department of Animal Science, Michigan State University, Efficacy of 25-Hydroxycholecalciferol on the Prevention of Tibial Dyschondroplasia in Ross Broiler Chicks, May 2002.

Geetha S. Kumar, Master of Science, Department of Animal Science, Michigan State University, Effects of Monensin and Sodium Chlorate on *Salmonella* Infantis Colonization in Broilers, October 2002.

RESEARCH GRANTS REVIEWED

Invited Reviewer, Michigan Agricultural Experiment Station, Michigan State University, Emerging Infectious Disease of Livestock, Poultry and Humans, Fall, 2011.

Invited Reviewer, Michigan Agricultural Experiment Station, Michigan State University, Moving to zero: A pathway to eradicate bovine leukemia virus from dairy herds, Spring, 2021.

Invited Reviewer, Egg Industry Center, Ames, Iowa, 2 research proposals, July 2015.

Invited Reviewer, USDA Animal Health Formula Funds, College of Veterinary Medicine, Michigan State University, Characterization of a New Disease and a Novel Calicivirus Detected in Michigan Rabbits, Summer, 2001.

Invited Reviewer, USDA, Cooperative State Research, Education, and Extension Service, National Research Initiative Competitive

Grants Program, Animal Health and Well Being, Proposal 2003-02249, 2003.

Invited Reviewer, USDA/ARS, Manuscript Peer Review, Effects of T-2 Toxin on Vaccinal Immunity against Marek's Disease. July 2015.

Invited Reviewer, Genetic and Biological Determinants of Avian Tumor Virus Susceptibility, USDA Avian Disease and Oncology Laboratory, Project Plan, NP 103 Animal Health, February 2011.

Invited Reviewer, Enhancing Genetic Resistance to Marek's Disease in Poultry, USDA Avian Disease and Oncology Laboratory, Project Plan, NP 101 Animal Health, April 2017.

Invited Reviewer, Understanding the early pathogenesis and virulence of necrotic enteritis in broiler chickens. Natural Sciences and Engineering Research Council of Canada, December 2017.

EXCELLENCE IN EXTENSION

ORGANIZATIONAL ACTIVITY

Moderator, Michigan Winter Poultry Seminar, Zeeland, Michigan, February 9, 2016.

Moderator and Organizer, Poultry Producer Panel on Biosecurity in Preparation for Avian Influenza: What worked, what didn't. Michigan Winter Poultry Seminar, Zeeland, Michigan, February 9, 2016.

ACTIONS TAKEN

Pre-placed Avian Influenza sampling kits in preparation for a Highly Pathogenic Avian Influenza event and/or in support of Sustainable Egg or Turkey Supply. Kits taken to Michigan's poultry producers. March 11, 2022.

Poultry sample collection and necropsy wet laboratory conducted for practicing veterinarians at the request of and co-sponsorship with Michigan Department of Agriculture and Rural Development. Diagnostic Center for Population and Animal Health, Michigan State University, East Lansing, Michigan. Held January 26, January 27, September 18, and September 19, 2013, February 1, 2015. A total of 57 private veterinary practitioners attended.

Poultry sample collection and necropsy wet laboratory conducted for Foreign Animal Disease Diagnosticians from the Michigan Department of Agriculture and Rural Development's State Veterinarian's Office and the local USDA Veterinary Services Office. Diagnostic Center for Population and Animal Health,

Michigan State University, East Lansing, Michigan. Held on April 13, 2017.

Led and facilitated, Active Table Top Avian Influenza workshop. A coordinated multi agency response to changing information involved in a low pathogenic H7 avian influenza occurrence in a hobby poultry flock. Participants were required to act out their actions and responsibilities during this event. Horatio S. Earle Learning Center, Lansing, Michigan, March 28, 2013

Fulton, R. M. Donning and Doffing of Personal Protective Equipment, Michigan Department of Agriculture's 2009 Avian Influenza Turkey Depopulation Exercise, Berlin Fairgrounds, Marne, Michigan, October 8, 2009.

Fulton, R. M. Organized Disease Outbreak Site Management, Michigan Department of Agriculture's 2009 Avian Influenza Turkey Depopulation Exercise, Berlin Fairgrounds, Marne, Michigan, October 8, 2009.

Led and facilitated, Active Table Top Avian Influenza workshop. A coordinated multi agency response to changing information involved in a poultry and human infection of H5N1 avian influenza. Participants were required to act out their actions and responsibilities during this event. Diagnostic Center for Population and Animal Health, Michigan State University, Lansing, Michigan, March 26, 2008.

Led and facilitated, Roles and Responsibilities in Emergency Zoonotic Disease Response. A multiagency walk through of each state agency's role and responsibilities in each step of a zoonotic disease outbreak. Diagnostic Center for Population and Animal Health, Michigan State University, Lansing, Michigan, December 10, 2008.

Fulton, R. M. Donning and Doffing of Personal Protective Equipment, FEMA Region V, Michigan Exercise 2008, Ingham County Fairgrounds, Mason, Michigan, August 26, 2008.

Fulton, R. M. Organized Disease Outbreak Site Management, FEMA Region V, Michigan Exercise 2008, Ingham County Fairgrounds, Mason, Michigan, August 26, 2008.

Co-organizer and technical advisor. On-Farm Catastrophic Avian Disease Joint Exercise. Michigan Department of Agriculture, Avian Disease Task Force, and Michigan Allied Poultry Industries, Inc., Overisel, Michigan. September 24, 2008.

Fulton, R. M. Outbreak Response for H5N1 Highly Pathogenic Avian Influenza (HPAI), Allegan County Extension Office, Allegan, Michigan. September 24, 2008.

WRITTEN COMMUNICATION

Author, Michigan Egg Quality Assurance Program. A hazardous avoidance critical control point program based upon the United Egg Producer's 5 star egg quality program written to help egg producers establish a documented egg quality control program. 2000 and 2010.

Author, Michigan Emergency Avian Disease Manual, a cooperative effort between Michigan Allied Poultry Industries, Inc. (MAPI), Michigan Department of Agriculture, Animal Industry Division, State Veterinarian's Office, Michigan Area Veterinary Services and Michigan State University's Diagnostic Center for Population and Animal Health to establish a catastrophic disease response for the regulatory agencies and the Michigan poultry industry. 2004 and 2006.

Lead Author, National Poultry Improvement Plan, State of Michigan Initial Response and Containment Plan H5/H7 low Pathogenic Avian Influenza. A disease response plan written to comply with federal regulations which allows Michigan poultry farmers to receive indemnity in a low pathogenic AI outbreak. 2009.

Author, Guidelines for the new Food and Drug Administration's rule on Prevention of *Salmonella* Enteritidis in Shell Eggs. A guide for Michigan poultry farmers to comply with the FDA's Salmonella enteritidis surveillance and on-farm inspection program. 2010.

EXTENSION BULLETINS

R. M. Fulton, Nancy Barr, and Darrin M. Karcher. Infectious Laryngotracheitis, Michigan State University Extension Bulletin, E3177, July 2012.

Z. Williams and **R. M. Fulton**. Egg Drop Syndrome '76, October 18, 2022.

D. M. Karcher, P. Wylie and **R. M. Fulton**. Suggestions for Ordinances Allowing Backyard Poultry, Michigan State University, Extension Bulletin E-3136, October 2010.

S. K. Varghese, A. M. Booren, G. S. Kumar and **R. M. Fulton**. Safe Home Processing of Poultry, Michigan State University, Extension Bulletin E-2898, November 2003.

NEWSLETTER ARTICLES

Fulton, R.M., Deadly Form of Influenza Found in Two Canadian Flocks - Poultry Beware, Diagnostic News, Winter 2022.

Buchweitz J, Lehner A, Zyskowski J, **Fulton R**: *Feed and Food Safety: An Eggcellent Finding*. Diagnostic News. Vol.10. No. 1. Spring 2020.

ORAL COMMUNICATION

Fulton, R. M. MSU Updates. Michigan Winter Poultry Seminar. Pinnacle Center, Hudsonville, Michigan. February 18, 2020.

Fulton, R. M. Proper Incubation and Hatching of Chickens. Envigo, Haslett, Michigan, July 22, 2019.

Fulton, R. M. Bumblefoot and How to Prevent It. Envigo, Haslett, Michigan, July 22, 2019.

Fulton, R. M. Common Diseases in Small Poultry Flocks. Small Poultry Flock Owner Management Symposium, Michigan State University Extension, April 27, 2019.

Fulton, R. M. Updates and Trends. Michigan Winter Poultry Seminar. Pinnacle Center, Hudsonville, Michigan. February 27, 2019.

Fulton, R. M. Biosecurity: Habits to Develop. Michigan Allied Poultry Industries' Annual biosecurity conference. Pinnacle Center, Hudsonville, Michigan. November 12, 2018.

Fulton, R. M. Questions concerning raising leghorns in confinement. Envigo, Haslett, Michigan, September 17, 2018.

Fulton, R. M. Diseases of Poultry that Make People Sick. Maple Leaf Duck Research meeting, Maple Leaf Company Headquarters, Leesburg, Indiana, June 11, 2018.

Fulton, R. M. Predation of a flock of Mallard Cross Ducklings. Maple Leaf Duck Research meeting, Maple Leaf Company Headquarters, Leesburg, Indiana, June 13, 2017.

Fulton, R. M. Biosecurity - A Goal to Strive For. Culver Duck Company Growers' Meeting. Middlebury, Indiana, November 10, 2015.

Fulton, R. M. Avian Influenza, the Current Situation. United States Department of Agriculture's Avian Disease Oncology Laboratory, Employee Biosecurity Meeting, East Lansing, Michigan, June 17, 2015.

Fulton, R. M. Pullorum blood testing workshop. 4-H Poultry Leaders Workshop, Kettunen Center, Tustin, Michigan, 2006 and 2014.

Fulton, R. M. Correlation between Gross and Microscopic Bone Lesions in Pekin Ducklings. Maple Leaf Duck Research meeting, Maple Leaf Company Headquarters, Leesburg, Indiana, July 7 - 8, 2014.

Fulton, R. M. Common diseases of small flock poultry. 2014 Chicken-Stock, www.backyardchickens.com, Michigan affiliates, Delta Mills Park, Lansing, Michigan, June 21, 2014.

Sledge, Dodd, **R. Mick Fulton**, and Caroline Andrews. Severe Keratoconjunctivitis in Freedom Ranger Chickens. Diagnostic Pathology Slide Seminar, American Association of Veterinary Laboratory Diagnosticians Annual Meeting, Kansas City, Missouri, October 17, 2014.

Fulton, R. M. Secure Egg Supply Biosecurity Audit. Secure Egg Supply Implementation Meeting, Michigan Department of Agriculture and Rural Development, Zealand Library, Zealand, Michigan, February 4, 2014.

Fulton, R. M. Post-mortem exam, specimen collection, blood sampling, and turkey submission to the diagnostic laboratory. Winter Extension Poultry Seminar, Zealand Library, Zealand, Michigan, February 4, 2014.

Fulton, R. M. Common diseases of small flock poultry. 2014 Ag Action Day, Michigan State University Extension, Kalamazoo Valley Community College, Kalamazoo, Michigan, January 31, 2014.

Fulton, R. M. Fowl Pox. St. Joe Country 4-H Poultry Exhibitors and Fair Board, Centreville, Michigan, January 23, 2014.

Fulton, R. M. Poultry-related issues affecting feed inspectors. Annual Fall meeting, Michigan Department of Agriculture and Rural Development, Food and Dairy Division, Diagnostic Center for Population and Animal Health, Michigan State University, East Lansing, Michigan, October 31, 2013.

Fulton, R. M. Interpreting Duck Proximal Tibial Lesions. Maple Leaf Duck Research meeting, Maple Leaf Company Headquarters, Leesburg, Indiana, July 8 - 10, 2013.

Sledge, Dodd and **R. Mick Fulton**. Infectious Laryngotracheitis Virus -Associated Conjunctivitis in Laying Hens. Diagnostic Pathology Slide Seminar, American Association of Veterinary Laboratory Diagnosticians Annual Meeting, San Diego, California, October 19, 2013.

Fulton, R. M. What veterinarians need to know about backyard chickens. Michigan Veterinary Medical Conference, Lansing Center, Lansing, Michigan, January 26, 2013.

Makagon, M. M., D. M. Karcher and **R. M. Fulton**. Gait and Lameness Research Update., Duck Research Workshop, Maple Leaf Farms, Leesburg, Indiana, July 24, 2012.

Fulton, R. M. Common Diseases of Poultry, Small Flock Poultry Workshop, Agriculture and Natural Resources Week, MSU Pavilion, Michigan State University, East Lansing, Michigan, March 6, 2012.

Fulton, R. M. Poultry Diseases of Concern at Fairs, Michigan Fairs and Exhibitions Convention, Devos Convention Center, Grand Rapids, Michigan, January 13, 2012.

Fulton, R. M. Understanding the Egg Laying Poultry Industry, Michigan Department of Agriculture and Rural Development, FDA *Salmonella enteritidis* Inspector training, MSU Pavilion, Michigan State University, East Lansing, Michigan, April 4, 2011.

Fulton, R. M. Michigan's Egg Quality Assurance Program, Michigan Winter Poultry Seminar, Zeeland, Michigan, February 3, 2011.

Fulton, R. M. Developing a Health and Welfare Audit for Ducks. Culver Duck Farms' Grower's Meeting, Middlebury, Indiana, January 18, 2011.

Fulton, R. M. Poultry 101 - Diseases and Health. 2010 4-H Poultry Leaders Workshop, Kettunen Center, Tustin, Michigan, October 30, 2010.

Fulton, R. M. Common diseases of poultry and control of pox viral infections. Centreville Elementary School Library, Centreville, Michigan, April 26, 2010.

Fulton, R. M. Common Diseases of Backyard Poultry, Ingham County Poultry Raisers Association, MSU Pavilion, East Lansing, MI April 1, 2010.

Fulton, R. M. Common Diseases of Backyard Poultry, MSU Evening College, Kellogg Center, East Lansing, MI February 23, 2010.

Fulton, R. M. Common diseases of poultry and Small Flock Biosecurity, Bi-State Poultry Clinic, Michigan State University Extension, East Lansing, Michigan, February 21, 2009.

Fulton, R. M. Common diseases of poultry. Michigan State University Extension St. Joseph County 4-H education evening. Centreville, Michigan, February 17, 2009.

Fulton, R. M. Common diseases of small flock poultry. 2009 Ag Action Day, Michigan State University Extension, Kalamazoo Valley Community College, Kalamazoo, Michigan, January 30, 2009.

Fulton, R. M. Where the industry is going. In the Animal Handling section of Michigan Meat Association Convention, Holiday Inn, Lansing, Michigan, March 8, 2008.

Fulton, R. M. Salmonella pullorum certification school. UP Leadermete, Workshop Session for 4-H leadership program. Bay Cliff Camp, Big Bay, Michigan, Saturday, April 14, 2007.

Fulton, R. M. Humane handling of Pekin Ducks, Culver Duck Company's quarterly growers meeting, March 20, 2007.

Patterson, J. S., T. M. Cooley, S. Bolin and **R. M. Fulton**. The Pathology of West Nile Virus Infection in Non-corvid Birds. Michigan Mosquito Control Association, Traverse City, Michigan February 7, 2007.

Fulton, R. M. and S. Nederveld, Poultry Handling, Sampling and Pullorum Testing and Avian Disease Review. Michigan Department of Agriculture workshop for field veterinarians and assistants. MSU Pavilion, East Lansing, Michigan, August 24, 2005.

Smedley, R, **R. M. Fulton** and M. Kiupel. Pigeon Circovirus and Adenovirus in a 3-month-old Racing Pigeon. Midwest Association of Veterinary Pathologists, August 9, 2005.

Fulton, R. M. Feed Withdrawal in Chickens, Pine Manor Annual Chicken Growers' Workshop, Goshen, Indiana, March 20, 2004.

Fulton, R. M. Update on Salmonella enteritidis Vaccines. Michigan Poultry Seminar, Ravenna, Michigan, February 19, 2004.

Fulton, R. M. Proper Feed Withdrawal in Pekin Ducks. Duck Grower's meeting, Culver Duck Farms, Inc., Middlebury, Indiana, April 24, 2003.

Fulton, R. M. Submitting Samples to the Diagnostic Lab. Turkey Growers Health Workshop, Allendale, Michigan, May 24, 2001.

Fulton, R. M. Egg Food Safety Initiatives and an Alternative Method for Preventing SE infection. Michigan Poultry Seminar, Hamilton, Michigan, February 15, 2001.

PREPARING MICHIGAN FOR BIRD FLU – 2006/2007

Fulton, R. M. Bird Flu in Birds: The Past, Present, and Future. Michigan Society for Clinical Laboratory Science, annual convention. Lansing, Michigan. April 12, 2007.

Fulton, R. M. Bird Flu in Birds: The Past, Present, and Future. Ottawa County Dairy, Meat and Poultry Agri-Terrorism Preparedness Seminar. Zeeland, Michigan. March 21, 2007.

Fulton, R. M. Bird Flu in Birds: The Past, Present, and Future. Michigan Meat Association Convention, Midway Motor Lodge, Lansing, Michigan. March 10, 2007.

Fulton, R. M. Bird Flu in Birds: The Past, Present, and Future. 2007 Northern Michigan Small Farm Conference, Grayling, Michigan. Saturday, January 27, 2007.

Fulton, R. M. Bird Flu in Birds: The Past, Present, and Future. Kent County Michigan's Meat, Poultry and Dairy Agri-Security

Workshop and Table top Exercise. Grand Rapids, Michigan.
November 2, 2006.

Fulton, R. M. Bird Flu in Birds: The Past, Present, and Future. Michigan Department of Agriculture, Animal Division, Supervisor's conference. St. Francis Retreat Center, DeWitt, Michigan, September 27, 2006.

Fulton, R. M. Bird Flu in Birds: The Past, Present, and Future. Michigan Department of Agriculture, Animal Industry Division, Retreat, Kettunen Center, Tustin, Michigan, June 21, 2006.

Fulton, R. M. Avian Influenza. MSU Pavilion, Lansing, Michigan, 6:00 PM, May 18, 2006.

Fulton, R. M. Biosecurity in Back Yard Flocks. MSU Pavilion, Lansing, Michigan, 6:00 PM, May 18, 2006.

Fulton, R. M. Avian Influenza: Separating fact from fiction. Avian Influenza News Backgrounder, sponsored by Michigan Farm Bureau in conjunction with Michigan Department of Agriculture, Lansing, Michigan, May 18, 2006.

Fulton, R. M. Bird Flu in Birds: The Past, Present, and Future. Culver Duck Farms, Inc., Annual Growers Meeting, Middlebury, Indiana, 6:00 PM, May 16, 2006.

Fulton, R. M. Avian Influenza. Menominee MSU Extension Office, Stephenson, Michigan, Saturday, Upper Peninsula of Michigan, May 6, 2006.

Fulton, R. M. Biosecurity in Back Yard Flocks. Menominee MSU Extension Office, Stephenson, Michigan, Upper Peninsula of Michigan, Saturday, May 6, 2006.

Fulton, R. M. Avian Influenza. Kinross Township Hall, Kincheloe, Michigan, Upper Peninsula of Michigan, May 5, 2006.

Fulton, R. M. Biosecurity in Back Yard Flocks. Kinross Township Hall, Kincheloe, Michigan, Upper Peninsula of Michigan, May 5, 2006.

Fulton, R. M. Bird Flu in Birds: The Past, Present, and Future. 2006 Great Lakes Homeland Security Training Conference and Expo. DeVos Place Convention Center, Grand Rapids, Michigan, May 3, 2006.

Fulton, R. M. Avian Influenza. Delta College, Bay City, Michigan, 6:00 PM, April 27, 2006.

Fulton, R. M. Biosecurity in Back Yard Flocks. Delta College, Bay City, Michigan, 6:00 PM, April 27, 2006.

Fulton, R. M. Avian Influenza. Cabela's, Dundee, Michigan, 6:00 PM, April 18, 2006.

Fulton, R. M. Biosecurity in Back Yard Flocks. Cabela's, Dundee, Michigan, 6:00 PM, April 18, 2006.

Fulton, R. M. Avian Influenza. Lapeer County Ed-Tech Center, Attica, Michigan, 6:00 PM, April 13, 2006.

Fulton, R. M. Biosecurity in Back Yard Flocks. Lapeer County Ed-Tech Center, Attica, Michigan, 6:00 PM, April 13, 2006.

Fulton, R. M. Avian Influenza - Past, Present and Future. Avian Flu Symposium, Oakland County Health Department, Oakland County, Michigan, April 12, 2006.

Fulton, R. M. Avian Influenza. 2006 4-H Poultry Leaders Workshop, Kettunen Center, Tustin, Michigan, Saturday, April 8, 2006.

Fulton, R. M. Biosecurity in Back Yard Flocks. Kettunen Center, Tustin, Michigan, Saturday, April 8, 2006.

Fulton, R. M. Avian Influenza. Dowagiac Conservation Club, Dowagiac, Michigan, 6:00 PM, April 6, 2006.

Fulton, R. M. Biosecurity in Back Yard Flocks. Dowagiac Conservation Club, Dowagiac, Michigan, 6:00 PM, April 6, 2006.

Fulton, R. M. Avian Influenza. Association of Michigan Agriculture Extension Agents Spring Conference, Kellogg Center, Michigan State University, March 6, 2006.

EXCELLENCE IN OUTREACH

INTERNATIONAL

Pakistan Telepathology Group, invited contributor and session speaker on poultry pathology. Organizers Dalen Agnew and Sarah Corner, Michigan State University, August 31, November 30, and December 28, 2021 and February 23, 2023.

Winrock International, Central Asia Farmer-to-Farmer Program, Funded by U.S. Agency for International Development, Request for Technical Assistance, Training on Poultry Diseases and Vaccination Program, Assignment number MYA124, Mandalay Region, Myanmar. Provided educational workshops for poultry farm owners, poultry farmers, poultry veterinarians, and veterinary diagnostic laboratory scientists in Myanmar (Burma). Prior to arriving in Myanmar, I developed four lectures. Those lectures included Biosecurity Principles, How Poultry Fight Diseases, Vaccines and Vaccinations, and Poultry Diseases of Myanmar. Once in Myanmar, those lectures were customized to meet the local needs. Based upon discussion with participants prior to training, I developed and presented additional lectures on Vaccination Guidelines, Disinfectants, How to Plan for a High Pathogenic Avian Influenza

Outbreak, and Introduction to the US Poultry Industry. January 29, 2018 - February 9, 2018.

United States Agency for International Development (USAID) STamping Out Pandemic and Avian Influenza (STOP AI), a 36 million dollar project to build international capacity to detect, respond to, recover, and stop the spread of H5N1 Asian strain of avian influenza in developing countries. Served as technical consultant on this project which provided expertise, developed, and implemented training on Highly Pathogenic Avian Influenza (HPAI) and as an implementing partner with Development Alternatives Inc. Countries visited for training planning and/or implementation of training were Senegal, Ukraine, Macedonia, Moldova, Bulgaria, Azerbaijan, Mongolia, Bangladesh, Italy, Egypt, Nepal, and Moldova for Transnistria. March 1, 2007 - July 31, 2008.

Trained government veterinarians and officials in Mongolia, Bangladesh and Macedonia on surveillance, proper donning and doffing of PPE, organized outbreak response, cleaning, and disinfection of Highly Pathogenic Avian Influenza.

Trained government veterinarians, poultry producers, service providers, hatchery owners and veterinary faculty on developing biosecurity programs for commercial, small holder poultry farms, poultry transporters, live bird markets and borders as preventative measures for the prevention of spread of Highly Pathogenic Avian Influenza. Chitwan, Nepal, March 8 - 12, 2010

Trained government veterinarians and officials from Transnistria on biosecurity surveillance, proper donning and doffing of PPE, organized outbreak response, cleaning and disinfection of Highly Pathogenic Avian Influenza, June 15 - 19, 2009.

Trained Egyptian government veterinarians on vaccination and vaccine failures, the science behind composting, biosecurity of waste management and composting, and outbreak response of Highly Pathogenic Avian Influenza, Mansoura, Egypt, December 14-17, 2009.

Technical advisor, Training aids teaching biosecurity to small poultry producers and household poultry flocks, Dhaka, Bangladesh, November 3 - 12, 2009.

Technical advisor, Training aids for live bird market cleaning and disinfection, Dhaka, Bangladesh, May 13-24, 2009.

Designed, lead technical advisor, and co-facilitator of field drill in Bangladesh, Dhaka, Bangladesh, September 12 - 19, 2008.

Designed, lead technical advisor, and co-facilitator of field drill in Macedonia, Skopje, Macedonia, September 26 - October 10, 2008.

Designed, lead technical advisor, and co-facilitator, Highly Pathogenic Avian Influenza table top and field drill, Sofia, Bulgaria, April 19 - 25, 2008.

Conducted national avian influenza needs assessment for Ukraine, Macedonia, Moldova, and Azerbaijan. January - February, 2008.

Continuation of Providing a Functional Necropsy Teaching Laboratory at the Faculty of Veterinary Sciences, Kabul University as a component of "Improving Livestock Health." Taught Veterinary Pathology faculty to use the necropsy laboratory, taught the pathologist how to use a digital camera, computers, and projectors to teach veterinary students. Taught pathologist and students how to perform necropsies on chickens. USAID, Kabul, Afghanistan. May 18, 2006 - June 19, 2007.

Continuation of Providing a Functional Necropsy Teaching Laboratory at the Faculty of Veterinary Sciences, Kabul University as a component of "Improving Livestock Health." USAID, Kabul, Afghanistan. Designed a gross necropsy lab and supporting labs as well as determined the equipment and supplies needed to support those laboratories for a period of 3 years. July 25, 2006 - August 27, 2006.

Development Alternatives Inc., United States Agency for International Development, Assessment and Strengthening of the Government of Rwanda's National Action Plan Against High Pathogenicity Avian Influenza (HPAI). Evaluated Rwanda's preparedness for HPAI and its national HPAI plan. Rewrote Rwanda's HPAI plan to be actionable. Led HPAI sample collection, doffing and donning of personal protective equipment, and transporting samples in a safe manner to the laboratory for testing in a train-the-trainer manner. Conducted table top exercise of the revised HPAI plan. May 18, 2006 - June 4, 2006.

USDA TDY team on Initiating a Teaching Lab at Kabul University under the "Improving Livestock Health" component of the PASA with USAID, Kabul, Afghanistan. Evaluated the anatomic pathology teaching and gross necropsy lab at the Faculty of Veterinary Sciences at Kabul University. March 24, 2005 - April 7, 2005.

Winrock International, Central Asia Farmer-to-Farmer Program, Funded by U.S. Agency for International Development, Request for Technical Assistance, Turkmenistan Scope of Work, Scope of Work number 198, Chicken and Duck Raising Business, TUR 202, Ashgabat, Turkmenistan. Evaluated and provided scientific support for poultry business expansion in an appropriate biosecure and sustainable manner. September 25, 2005 - October 8, 2005.

R. Fulton. Cochran Fellowship Program - Turkey, Avian Influenza Surveillance, Response, and OIE Consistent Trade Restrictions. United States Department of Agriculture/Foreign Agricultural Service. \$39,755, 2019. (100% effort) (not funded)

ORAL COMMUNICATION

Fulton, R. M. Afghanistan - Past and Recent Past. Seminar, Avian Disease Oncology Laboratory, East Lansing, Michigan, September 25, 2009.

Fulton, R. M. Avian Influenza: The virus, history and disease in birds., Michigan Veterinary Conference 2009, Lansing, Michigan, January 23, 2009. (paper published in proceedings)

Fulton, R. M. Avian Influenza: Global Preparation in the Animal Health Sector., Michigan Veterinary Conference 2009, Lansing, Michigan, January 23, 2009. (paper published in proceedings)

Fulton, R. M. Afghanistan - Past and Present 2007. Office of International Programs and Resources Seminar, College of Veterinary Medicine, Michigan State University, East Lansing, Michigan, December 3, 2008.

Fulton, R. M. Careers in Veterinary Medicine, St. Matthew's Lutheran High School, Holt, Michigan, January 11, 2008.

Fulton, R. M. Bird Flu in Birds, St. Matthew's Lutheran High School, Holt, Michigan, January 11, 2008.

Fulton, R. M. Afghanistan - Past and Present. Mason Antique Tractor Club Monthly meeting, Alaiedon Township Hall, Mason, Michigan, April 3, 2007.

Fulton, R. M. Afghanistan - Past and Present. Dinner speaker. Michigan Winter Poultry Seminar, Michigan State University and Michigan Allied Poultry Industries, Inc., Zeeland, Michigan, February 23, 2006.

Fulton, R. M. Afghanistan - Past and Present. Michigan Chapter of the Military Officers Association of America, Lansing, Michigan, November 10, 2006.

Fulton, R. M. Afghanistan - Past and Present. Okemos Kiwanis, Okemos, Michigan, September 19, 2006.

Fulton, R. M. Afghanistan - a troubled place. Lunch and Learn, retiree club members of the University Club, Michigan State University, East Lansing, Michigan, January 24, 2006.

Fulton, R. M. Afghanistan - a troubled place. **Invited Keynote Speaker**, Midwest Poultry Consortium Center Of Excellence graduation banquet, University of Wisconsin, Madison, Wisconsin, July 19, 2005.

Fulton, R. M. Afghanistan - a troubled place. Brown Bag Seminar, Diagnostic Center for Population and Animal Health, College of Veterinary Medicine, East Lansing, Michigan, July 27, 2005.

Fulton, R. M. Afghanistan - a troubled place. CVM Pre-Vet Colloquia, College of Veterinary Medicine, East Lansing, Michigan, August 26, 2005.

LOCAL

POPULAR MEDIA

2022 Avian Influenza, Carol Thompson, Detroit News.

2016 American Farmer TV featuring Townline Poultry Farm, Inc. YouTube video <https://www.youtube.com/watch?v=C2deHPJtuIw>, 0:43 through 1:31.

Dog treats pulled off the shelves. WLNS channel 6 News, Lansing, Michigan. 11:25 PM, January 14, 2013.

Quoted in Duck Patrol, Cherie Langlois in *Chickens*, May/June 2012.

Quoted in Associated Press article "Bird flu, pig flu, now bat flu? Human risk unclear." February 27, 2012.

Quoted in January/February 2007 and January/February 2008 issues of Hobby Farms magazine.

The Bird Flu: Fact or Fiction. WWJ 950 AM, Detroit. Host: Bill Stevens. Served as Avian Influenza expert on panel. 7:00 to 8:00 PM, Monday, April 24, 2006.

Interview with Ron Pritchard. Michigan Talk Radio Network. 6:35 AM, Saturday, April 8, 2006.

Interview with Frank Beckmann. WJR 760 AM, Detroit. Second interview about Avian Influenza. 9:00 AM, Thursday, March 9, 2006.

Pondering a Potential Pandemic: Avian Flu. Currently Speaking, Andy Rupp, QTV, Public Broadcasting Station, Delta College, Bay City Michigan, October 25, 2005.

2006 quoted in June 2006 issue of Oprah Magazine, Detroit Free Press, Detroit News, Kalamazoo gazette.

2006 interviewed by local news television stations of Flint, Saginaw, and Bay City, Michigan.

R. M. Fulton. Macaw Wasting Syndrome not just for macaws anymore. Michigan Association of Veterinary Technicians, MAVT News. Vol. 1, December 1, 2003.

EXCELLENCE IN TEACHING

AWARDS

Mark Cook Pullet-zer Award 2018, Faculty Member of the Year for excellence in teaching Summer Session II at the Midwest Poultry Consortium Center of Excellence (COE) program for poultry science. This award is given to the best teacher, as chosen by the students, out of an eligible 20 faculty. Midwest Poultry Consortium consists of 12 Midwest universities from Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Florida. Undergraduate students attend the COE to receive poultry specific education.

Mark Cook Pullet-zer Award 2019, Faculty Member of the Year for excellence in teaching Summer Session II at COE.

Epsilon Sigma Phi Tools for Teaching Award, Extension Educational Program, 2002 Poultry Health Management School Proceedings, Second Place, 2002.

COURSES DEVELOPED

Co-developer, online small flock poultry medicine certificate program for practicing veterinarians. This project is the combined effort of University of Kentucky, Utah State University, and Michigan State University. Jacqueline Jacob, Ph.D. and Anthony Pescatore, Ph.D. of University of Kentucky are providing poultry science input while David Frame, D.V.M., Utah State University, and **Richard M. Fulton, D.V.M., Ph.D., Michigan State University** are providing veterinary poultry medicine and diagnostics input. The online course has seen external review and is now offered through the American Association of Avian Pathologists. The course consists of 22 modules varying in length from 10 to 35 minutes completion time. Once candidates have passed all course quizzes, the successful candidate receives a certificate of satisfactory completion as well as 8 hours of RACE-approved continuing education. The course was constructed from 2018 through 2021 and offered beginning in 2022.

Course developer and coordinator, PDI 637 Poultry Medicine Clerkship. An experiential poultry medicine course based upon didactic lectures and poultry facility visits. 2015, 2016, 2017, 2018, and 2019.

The objectives of this course is to provide veterinary students with 1) an understanding of modern poultry production and management in the United States of America, 2) to develop a working knowledge of how to diagnose, treat, and prevent common poultry diseases, 3) improve understanding of pathogenesis of viral, bacterial, parasitic, and fungal diseases which will provide a deeper understanding and will enable students to better prevent and treat diseases, as well as, understand treatment

failures, 4) provide an understanding of how animals fight disease, how vaccines are produced and applied, and most common causes of vaccine failure, 5) to develop a working knowledge of on-farm biosecurity, the use of disinfectants and how to develop pest (fly and rodent) control programs and understand their importance as it relates to food safety, 6) to develop an understanding of the veterinarian's important role in "farm-to-fork" food safety programs, and 7) to develop an awareness of diseases of other (non-poultry) avian species.

The course consists of didactic lectures (typically given in the morning), laboratory work (poultry necropsies and visits to other diagnostic laboratory sections), and field trips. Lectures include 1) introduction to poultry production and management in the United States of America, 2) biosecurity practices on commercial farms and small flocks, 3) viral diseases of poultry, 4) bacterial diseases of poultry, 5) parasitic diseases of poultry, 6) fungal and mycotoxin diseases of poultry, 7) metabolic diseases of poultry, 8) disinfectants, 9) diseases of gamebirds (pheasants, quail, partridges...), 10) diseases of pet birds, and 11) state and federal agencies response to catastrophic disease. The laboratories consist of restraint, oropharyngeal and cloacal swabbing, blood collection (wing, medial saphenous, and jugular veins), avian necropsy technique, necropsy of egg laying chicken mortality, and serology tests and interpretation. Half to full day field trips include an egg laying chicken farm with an in-line egg processing plant, a turkey farm, a turkey processing facility, a feed mill, a broiler hatchery, a broiler farm and a broiler chicken processing plant, and a duck hatchery, duck breeder farm, duck grow out farm and a duck processing plant.

COURSES MODERATED

Lead course coordinator and lecturer, PTH 858 and 859, Pathology of Avian Diseases. Michigan State University, Spring, 1998, 2000, 2002, 2004, 2006, 2010, and 2012.

PTH 858 Pathology of Avian Diseases, Course for graduate veterinarians in disease diagnosis, prevention and treatment of the avian species with emphasis on gross and microscopic lesions. Michigan State University.

PTH 859 Pathology of Avian Diseases Laboratory, A histopathology laboratory course of diseases of the avian species as an accompaniment for PTH 858. Michigan State University.

Co-coordinator and lecturer, PTH 858 Pathology of Avian Diseases, Course for graduate veterinarians in disease diagnosis, prevention, and treatment of the avian species with emphasis on gross and microscopic lesions. Michigan State University, Spring, 1996.

Co-coordinator and lecturer, PTH 859 Pathology of Avian Diseases Laboratory, A histopathology laboratory course of diseases of the avian species as an accompaniment for PTH 858. Michigan State University, Spring, 1996.

Course coordinator, Path 630, Diagnostic Pathology Clerkship, Michigan State University. Fall 2000 to 2003.

Course coordinator, An Sci 512, Avian Health, 512, Avian Health, Lectured to undergraduate poultry science students enrolled in the summer course of the Midwest Poultry Consortium Area of Expertise. Undergraduate students are from any of 13 Midwest universities. Lectured on biosecurity, disinfectants, bacterial, viral, and parasitic diseases of poultry, Summer 2018, 2019, and 2020.

COURSES WHERE LECTURED

Lecturer, Lungs over Lunch, Avian Respiratory System Anatomy and Physiology, College of Veterinary Medicine, Michigan State University, January 17, 2020, January 12, 2022.

Lecturer, PDI 630, Diagnostic Pathology Clerkship, Michigan State University. Lecture and necropsy laboratory on most common poultry problems confronted by a private practitioner and step by step instruction of avian restraint, blood collection, swabbing, and necropsy of chickens. 2003 to present.

Lecturer, ANS 511, Animal Science for Veterinarians. Introduction to the commercial poultry industry to first year veterinary students. 2016 and 2017.

Lecturer, Path 551, General Pathology, Michigan State University. Lecture to and direct laboratory sessions for first year veterinary students about degeneration, necrosis, apoptosis, and postmortem artifacts. Spring 1999 to Fall 2018.

Lecturer, PDI 561, International Veterinary Medicine, Michigan State University, What can a veterinarian do in international veterinary medicine? Fall 2009 to 2019.

Lecturer, Careers in International Veterinary Medicine, Production Medicine Scholars Program, Department of Animal Science, March 25, 2010, November 20, 2014.

Lecturer, VM 511, Physical Examination of Animals and their Environment, Avian Comparative Anatomy. Lecture to and direct laboratory sessions for first year veterinary students on careers in poultry medicine, restraint techniques, physical examination, and comparative anatomy. Fall 1995 to Fall 2017.

Lecturer, VM 522, Veterinary Integrative Problem Solving II, Michigan State University. Pasteurellosis in turkeys. Directed second year veterinary students in a case study oriented course in problem solving, Spring, 2007.

Lecturer, VM 556, Digestive, Metabolic and Endocrinological Diseases, Michigan State University. Diseases of the Digestive System of Poultry. 1994 to 2017.

Lecturer, FW 423, Principles of Fish & Wildlife Diseases, Avian Influenza, April 3, 2007 to 2009.

Lecturer, FW 423, Principles of Fish & Wildlife Diseases, Avian Necropsy Laboratory, Spring 2009.

Lecturer, MMG 565, Veterinary Pathogenic Microbiology: Viruses. Avian Viral Diseases in Veterinary Virology, Spring 2009 to 2019.

Lecturer, Poultry Science 512, Avian Health, Lectured to undergraduate poultry science students enrolled in the summer course of the Midwest Poultry Consortium Area of Expertise. Undergraduate students are from any of 13 Midwest universities. Lectured on biosecurity, disinfectants, bacterial, viral, and parasitic diseases of poultry, University of Wisconsin, Summer, 2001, 2004, 2014, 2015, 2016, 2017, 2018 and 2019.

Lecturer, ANS 309, Hygiene and Health, Common Diseases of Backyard Poultry and Some Avian Viruses of Commercial Poultry, Department of Animal Science, Michigan State University, February 27 and 29 and October 17, 2012, October 16, 2013, October 13, 2014, September 18, 2015.

Lecturer, ANS 252, Introduction to the management of Avian Species, Department of Animal Science, Michigan State University. Most important viral diseases of poultry and Other common poultry diseases, April 16 and 18, 2018.

Instructor, Vet Camp, College of Veterinary Medicine, Michigan State University, CSI: Chicken Strut Interrupted, Lecture and laboratory instructing middle school children on the scientific approach to the investigation of cause of death in chickens. 2003, 2004, and 2005.

Instructor, American Association of Pre-veterinary Medical Students National Conference, College of Veterinary Medicine, Michigan State University, CSI: Chicken Strut Interrupted, Lecture and laboratory on the scientific approach to the investigation of cause of death in chickens. And lecturer, Avian Influenza, March 11, 2006.

Review of avian diseases for fourth year veterinary students that are studying for national and state board exams, Fall 2004, 30 students, Fall 2005, 50 students, Fall 2006, 40 students, Fall 2008, 40 Students, Fall 2009, 40 students, Fall 2010, 30 students, Fall 2012, 25 students, Fall 2014, 30 students.

Mentor, Michigan State University's Farmer Short Course Student, Doug Patmos. March 2006.

AWARDS AND HONORS

Mark Cook Pullet-zer Award 2018, for excellence in teaching in Summer Session II at the Midwest Poultry Consortium Center of Excellence (COE) program for poultry science. This award is given to the best teacher, as chosen by the students, out of an eligible 20 faculty. Midwest Poultry Consortium consists of universities from 12 midwestern states and Florida. Undergraduate students attend the COE to receive poultry specific education.

Mark Cook Pullet-zer Award 2019, for excellence in teaching in Summer Session II at the Midwest Poultry Consortium Center of Excellence (COE) program for poultry science.

Outstanding Service Award, Midwest Poultry Consortium, 2019. Award given for outstanding service to the consortium which consists of twelve colleges in midwestern states and Florida as well as 114 poultry businesses to support college level poultry education in the Midwest.

Meritorious Service Award, North Central Avian Disease Conference, 2018. This award is given in recognition of outstanding contributions in avian medicine and devotion in serving the poultry industry.

President, American Association of Avian Pathologists, 2013/2014.

CONTRIBUTIONS TO THE COMMUNITY

President, Saint Matthew's Lutheran Church, Holt, Michigan, 2016

Vice President, Saint Matthew's Lutheran Church, Holt, Michigan, 2012 through 2015.

Member, Saint Matthew's Lutheran School Board, Holt, Michigan, 2010 to 2020.

PROFESSIONAL CERTIFICATION AND LICENSURE

Diplomate, American College of Poultry Veterinarians, 1992 to present.

Board eligible, American College of Veterinary Pathologists

Licensed to practice veterinary medicine in Indiana, Illinois, and Michigan.

Federally accredited in Indiana, Illinois, and Michigan.

ACPV Application for Emeritus Membership

Name: Rachel Ouckama

Address:

3390 Smith Settlement Road
Baltimore, Ontario K0K1C0
Canada

Email: rachel.ouckama@gmail.com

Phone: (905)373-2141

Birthplace: London England

Birth date: 1/3/1954

Citizenship/Permanent Residency: Canada

Additional Information

How long have you been a member of ACPV?: 29 years

Resume of your experience in avian medicine:

(Recent positions, please give employer name, title, type of work and years spent)

See below.

What are you doing now?:

Enjoying grandchildren, my garden, cottage by the lake and refinishing old boats.

Other Comments:

Curriculum Vitae

Rachel Mary Ouckama D.V.M., Diplomate A.C.P.V. (nee Donworth)
3390 Smith Settlement Road, R.R.#1
Baltimore, Ont. K0K 1C0
1-905-342-2174
cell:905-373-2141

Education:

Graduated Doctor of Veterinary Medicine, Ontario Veterinary College, Guelph, Ontario 1977
Board certification: Diplomate American College of poultry Veterinarians 1994

Employment History:

April 2019: retirement

1999-2019:

General Manager Maple Lodge Hatchery and Breeder Division. Responsible for managerial, budgeting and forecasting requirements for the Maple Lodge Hatchery Divisions (Curtis Chicks, Fleming Chicks, Stratford Chick Hatchery and Jarvis Chicks locations, hatching approximately 80 million broilers annually and contracting 650,000 breeders); developing and managing the procurement interface with the processing plant as well as Continuous Improvement Strategy for live bird supply. In addition the hatchery technical and veterinary responsibilities listed below expanded to all the hatcheries.

1985-1999:

Consulting Veterinarian to Curtis Chicks Ltd, Port Hope, Ont. (became part of Maple Lodge Group of companies in 1990). This is a large hatchery, hatching 25 million broilers per year and contracting 250,000 breeders. Responsibilities included directing the companies Research and Development program, Incubation management program, HACCP program, Quality Assurance program for both breeders and hatchery operations, the Breeder Management program for the company's owned and contracted flocks and the Flock Service and vaccination program. In addition providing veterinary services, diagnostics and extension/education services to the company, contracted flock owners and broiler customers; also representing the company at various industry meetings/committees and regularly presenting seminars and technical or health related lectures to various sectors of the industry.

1983-1989:

Consulting Veterinarian Cavendish Laboratories, Baltimore, Ont. This was a pet food testing laboratory and kennel (80 dogs and 80 cats). Responsibilities included regular examination, facilities inspections, supervision of animals on test, regular hematological profiles in accordance with federal regulations and various certification programs.

1978-1982

Employed as veterinarian, Ganaraska Animal Clinic Port Hope, Ont. Full time clinical practitioner in a mixed practice (75% small animal).

1977-1978

Employed as veterinarian, Halton Hills veterinary Services, Acton, Ont. Part Time clinical practitioner in small animal-equine practice.

1975-1977

Employed as student by the Department of pathology, Ontario Veterinary College under Dr. V.E.O. Valli on various projects. The two main ones were investigation blood coagulopathy and bone marrow response affected by Trypanosoma congolense infection (cooperative between C.I.C.R.C. and Kenyan government) and the Lymphosarcoma project (under a grant from United Breeders) investigating the epidemiology and transmission of lymphosarcoma virus through frozen semen.

Industry Appointments:

Ontario Academy of Avian Medicine (member 1985-1999 when absorbed by OAPV)

- vice president 1987-88
- permanent secretary 1988-1999

Ontario Association of Poultry Veterinarians (originally OAPP, founding member 1994-present)

- President 1994-1996
- Chair: Steering Committee on Licensure and Accreditation to CVO 1994
- appointed to Registration Committee Ontario College of Veterinarians 1993-99
- representative: CVO Task force on Drug Dispensing in Food Producing Animals 1996-97
- representative: Ontario Expert Committee on Antimicrobial Drugs in Domestic Animals 1999-2000
- representative: Fact Finding mission to North Carolina for Poultry Contagious Disease Preparedness 2001
- Co-chair: Task Force Extra label Drug usage/cgFARAD 2002-2003
- member National Avian Influenza Expert committee (CFIA 2002-2008)
- member cg-FARAD Advisory Committee 2004-2013
- representative Inclusion Body Hepatitis Working Group (renamed Industry Broiler Health WG) 2007-2019
- hatchery/breeder expert Ontario Animal Health Surveillance network team 2014-2019.

Canadian Association of Poultry Veterinarians (founding member 2002-present)

- regional director 2002 to present
- representative: CIPARS Advisory Committee 2004-2019
- Chair: National Poultry Industry AMU/AMR working group 2014-2018
- Director (Poultry): Canadian Animal Health Surveillance System 2015-19
- representative: President's Council of CVMA

Ontario Broiler Hatching Egg and Chick Commission

- Director Hatchery Sector 2010-2019
- veterinary expert representative on various committees as requested 1995-2019
- Chair technical subcommittee guidelines and regulations Salmonella & Mycoplasma control
- Chair technical subcommittee hatchery and breeder biosecurity guidelines and regulation
- technical expert welfare committee; Euthanasia techniques in broiler breeder GFII research project 2014
- co-chair technical subcommittee: Industry Chick and Flock Performance Working Group 2018-2019

Canadian Hatchery Federation

- Veterinary representative Hatchery Standards Review committee (CFIA) 1983-86
- Veterinary representative n Federal-Industry Review Board of National Salmonella Control program 1990-93
- representative: Business Alignment Plan Restructuring committee 1993-94
- Veterinary representative on National Consultation Committee for Hatcheries (CFIA-regulations and accreditation) 1990-2008
- Chair Technical committee for HACCP in hatcheries 1996-2014

- technical expert representative on CBHEMA HACCP Technical Committee (CHEQ program development and producer guide)
- expert representative Taskforce on Salmonella in Egg production (CEMA) Chair technical committee on risk analysis Salmonella in table egg production 2000-04 and again 2008.
- veterinary representative Hatchery Regulations Review Committee (CFIA) 2004-2019
- Veterinary representative FSEP Expert Committee for Development of HACCP generic Model for hatcheries (CFIA) 2006-2019
- Veterinary representative for Development of Generic FSEP prerequisite program for hatcheries (CFIA) 2010-13
- Veterinary representative for Development of new Accredited Hatchery Supply Flock Policy for Canada (CFIA) 2010-2019
- Chair: National All industry AMU/AMR working group 2014-2018

Canadian Poultry and Egg Processors Council

- Veterinary representative on CFIA Committee for Import/Export issues 2001
- Veterinary representative on CARC revision committee for Code of practice for Care and Handling of Poultry 2000-2005
- Veterinary expert to review proposed legislation and Operations Manual CFIA
- Member :Processing Operations Technical Committee (POTC) 2004 -2018
- Veterinary representative Salmonella enteritidis in Shell Eggs Expert committee of Health Canada/Public Health Canada 2006-2012
- National Industry representative: Quad Country Workshop on Zoning and Compartmentalization (CFIA OIE) 2008
- Veterinary representative National Avian Biosecurity Advisory Council (CFIA) 2006-2018
- Chair: Scientific Committee for Development National Standards for Poultry Biosecurity, development and publication of guide and website(CFIA- NABAC) 2006-2009

Ontario Poultry Council , now Poultry Industry Council

- Member Research and Disease Committee 1986- 2014
- expert reviewer research proposals for funding approval
- member Emergency Preparedness Task Force 2001-2014
- Expert representative: Taskforce on Handling and Welfare Guidelines in Transportation and Catching Poultry in Ontario (OMAFRA)
- expert representative: Biosecurity Standards for Ontario Poultry Industry PFRMP project to develop and publish guidelines for all levels of industry 2004-2010

Ontario Animal Research and Services Committee (OMAFRA)

- Chair Broiler Subcommittee 1995-2006
- Chair Poultry committee 4 year strategic plan Review 2000 and 2004

Additional memberships:

- Canadian Veterinary Medical Association 1977-present
- College of Veterinarians of Ontario 1977-present
- World Poultry Science Association 1985-present
- World Veterinary Poultry Association 1985-presnt
- American Association of Avian Pathologists 1992-present
- American College of Poultry Veterinarians 1994-present
(member Continuing Education Committee 1995-98)

Scientific Publications:

The Pathogenesis of *Trypanosoma congolense* Infection in Calves IV: The Kinetics of Blood Coagulation. C.M. Forsberg, V.E.O Valli, P.W.Gentry, R.M. Donworth. *Vet pathology* 16:242 (1979)
Investigation of Possible Transmission of Lymposarcom Virus through Frozen Semen. V.E.O Valli, R.M.Donworth, W.Martin. *CJVR* (1978)

A Mathematical Model for Estimation of Broiler Egg Weight Loss from Physical Dimensions and Air cell Size during Incubation. L.Phillips, J.Brake, S.Eller, R. Ouckama.. *Poultry Science* 71:625-630 (1992)

Injection of Vitamin D3 Inovo as a treatment for Broiler Progeny from Broiler Breeder Flocks Profoundly Deficient in Vitamin D3: Poster and paper presentation AAAP, Louisville, Kentucky July 24, 1996.

Salmonella typhimurium DT104 in Broiler Breeder Premises: Risk management Based on Surveillance. D.M.Alves, R. Ouckama, C.Poppe, M.G.Maxie, PIC project #E F5067. Also presented by R. Ouckama as poster and paper presentation at World Poultry Congress, Montreal, Quebec, August 19, 2000

Arthritis and Osteomyelitis associated with *Enterococcus cecorum* infection in broiler and broiler breeder chickens in Ontario, Canada. Margret J Stalker, Marina I Brash, Alexandru Weisz, Rachel M Ouckama, Durda Slavic. *Journal of Veterinary Diagnostic Investigation*; official publication of American Association of Veterinary Laboratory Diagnosticians. Inc 07/2010; 22 (4);634-5

Antibiotics and Poultry—A comment. Rachel Ouckama. *The Canadian Veterinary Journal. La Revue Veterinaire Canadienne* 04/2010;51(4);345

Risk Factors for Infectious bursal disease virus among Ontario commercial broiler chicken flocks. M.E.Eregrae, C.E.Dewey, S.A. McEwen, R.M.Ouckama, D.Ojkic, M.T.Guerin. Submitted for publication to *preventative Veterinary Medicine* Sept 23, 2013.

Seasonal variation and geographical distribution of the prevalence of Chicken Anemia virus, Infectious bursal disease and Fowl adeno virus among Ontario Broiler Flocks Michael E. Eregae, Cate E Dewey, Scott A McEwen, Rachel Ouckama, Davor Ojkic, Michel T Guerin submitted to *Canadian Journal of veterinary Research* Dec 15, 2013.

Flock prevalence of exposure to Avian adeno-associated virus, Chicken anemia virus, Fowl adenovirus and Infectious bursal disease virus among Ontario broiler chicken flocks. Michael E. Eregae, Cate E Dewey, Scott A McEwen, Rachel Ouckama, Davor Ojkic, Michel T Guerin. *Avian Diseases* 03/2014;58(1);71-7

Atypical Mycotic Infection in Poultry : *Aspergillus oryzae* Emily Martin, Alex Weisz, Lloyd Weber, Rachel Ouckama. *AHL Newsletter* Vol 20, number 2, June 2016.

Kathleen E. Long, Rachel M. Ouckama, Alex Weisz, Marina brash, Davor Ojkic. White Chick Syndrome Associated with Chicken Astrovirus in Ontario Canada. Poster AAAP July 2016

Marina Brash, Emily Martin, Margret Stalker, Davor Ojkic, Kathleen Long, Rachel Ouckama, Alex Weisz, Elizabeth Black, Shabaz ul Haq, Mike Joice, Lloyd Weber. Emergence of Runting Stunting Syndrome in Ontario, Canada. Poster AAAP July 2017

R.M. Ouckama, F.Salgado-Bierman, M.T.Guerin , M.L. Brash. Identifying dead on arrivals (DOA) at shackling in a slaughter line gas stunning of lay hens: Part 1- hock Flexion resistance and wing position. 2017 J.Appl.Poultry.Res.0;1-10

R.M. Ouckama, F.Salgado-Bierman, M.T.Guerin , M.L. Brash. Identifying dead on arrivals (DOA) at shackling in a slaughter line gas stunning of lay hens: Part 11- Proof of concept for detecting simulated change in hock flexion resistance. 2017 J.Appl.Poultry.Res.0;1-6

Guerin M, VargaC, Slavic D,Boerlin P, Brash M, Martin E, Ouckama R, Weisz A, Petrik M, Phillippe C, Barham M. Evaluating virulence genes and antimicrobial susceptibility of avian pathogenic Escherichia coli from Ontario broiler and broiler breeder flocks. Animal Health laboratory newsletter, Mar 2016;20(1);9 Also oral presentation Canadian Animal Health Laboratorians Network (CAHLN) June 4-7, 2017 Guelph Ont. And also Poster at 5th Annual workshop Ontario Animal Health network (OAHN) Jan 31, 2018

Manon Racicot, G Comeau, A Tremblay,S Quessay,T Cereno, M Carron-Langlois, D Venne, G hebert, JP Vallancourt, R ouckama, D Miteviski,M Guerin, Aunos, L Dewinter. Identification and selection of food safety risk factors to be included in CFIA Establishment based Risk Assessment model. Submitted for publication Zoonoses and Public Health Jan 2019

Murray,C.E.,Varga,C.,Ouckama,R.,Guerin,M.T.,Temporal study of salmonella enteritica serovars isolated from fluff samples from Ontario Poultry Hatcheries between 2009 and 20018. Pathogens 2-22;11.

Carolyn E.Murray, Csaba Varga, Rachel Oyuckjama, Michelle T Guerin. Evaluation of Ontario's Broiler breeder Five way Vaccination Program for Salmonella enteritica in the hatchery environment: 2009-2018. Brief Communication: submitted to Canadian Veterinary Journal in 2023.

Scientific conference presentation on papers not yet published (Presenting author *)

R.M.Ouckama* W.O.G yields versus live transportation and production Inputs. Paper presentation, proceedings publication, 40th annual meeting on Poultry Health and processing, Ocean City, Maryland, Oct 20, 2005

R.MOuckama*, M. Brash. Case report of Multiple Broiler breeder flocks with oesophageal lesions. 59th Western Poultry Disease Conference , April 21, 2010

Guerin, M*, Egreae,M Kasab-Bashi H, Nham E, Ojkic D, Slavic D, Sanei B, Zellen G, Neil J, Ouckama, R, Mcewen S, Dewey C, pearl D, Boerlin P. Enhanced surveillance for viral and bacterial pathogens in commercial broiler chicken flocks in Ontario. Association des veterinaries en industrie animale (AVIA) poultry meeting, March 26, 2013.

R.M.Ouckama, M. Brash,P Lawlis, T Widowsky. Identifiacion of DOA on fowl gas stunning line OAPV June 3, 2014.

Primary Author Industry publications/Fact sheets

Practice of veterinary medicine for poultry in Province of Ontario. For College of Veterinarians on behalf of Ontario Academy of Avian Medicine. June 1993

Proposal of Minimum Standards for veterinary Facilities in Ontario: Services for Poultry. For College of Veterinarians of Ontario on behalf of Ontario Academy of Avian medicine June 1993.

Investigating hatch problems using Analysis of Hatch Residue breakout. Clinica de Incubacao, International Poultry consultants, Brazilia, Brazil Aug 1996

Hatchery Monitoring through hatch residue breakouts: Clinica de Incubacao, International Poultry consultants, Brazilia, Brazil Aug 1996 Repeated VI international Poultry production course, International Poultry Consultants and University of Guelph, June 1997.

Hatchery Accreditation Generic Manual and Application forms, Canadian Hatcher Federation, Ottawa April 1996

Analyzing hatching residue; 1997 Jamesway Hatchery Short course, Jamesway Incubator Company Ltd. Guelph 1997.

Generic HACCP Prerequisite and HACCP Programs for Canadian Hatcheries, Manual. Canadian Hatchery Federation, Ottawa, Oct 1999.

Research for investigation of ST104 in hens and eggs from flocks where environment has cultured positive. Report of Science subcommittee ST104 taskforce, CEMA 2002.

Risk management strategy for control of Salmonella Typhimurium DT104 in Shell eggs. Report of Science Subcommittee ST104 Taskforce CEMA 2004.

HACCP Hazard Analysis for hatcheries. Report to Canadian Hatchery Federation, Ottawa, 2004

Ontario Animal Research and Services Committee, Broiler sub committee Annual report and Recommendations (annually 1995- 2005)

Ontario Animal Research and Services Committee, Four year Strategic report for Research for poultry. 2000 and 2004.

PIC factsheets: Ventilation 1997. Salmonella typhimurium DT104 in broiler breeder premises 2000

Maple Lodge Farms, Hatchery division: broiler breeder handbook and breeder servicemen's handbook: 2000,2003,2006,2008, 2013

Welfare Audit guidelines for MLF hatcheries 2004

Maple Lodge Farms (all divisions) Emergency Disease Response handbook 2004, 2008

Yield project and CAT2 analysis for Maple Lodge Farms Live production and transportation: three annual reports, 2004-2007

Predictive Metric for Fowl DOA Oct 2007

Predictive factors for in-transport mortality in Broilers Nov 2007

Ontario Hatcheries Association, Response protocols for Salmonella (Se and St104) 2006, 2007

Biosecurity Risk level of Selected Poultry Diseases, Poster and fact sheet, PIC, OLPC & Agrifood Canada 2006

Vaccination strategies and outcomes, Report to National expert Committee on AI, 2006

Risk Analysis and priority for Biosecurity Interventions for AI. Novel risk Determination of biosecurity procedures on farm through unit level biosecurity concept. Report to Science committee NABAC (CFIA) 2007

Minimum procedures Guidelines for biosecurity- Avian influenza. Final report of Science Committee for development of national standards of poultry (Farm level) NABAC (CFIA) 2007

Minimum procedures Guidelines for biosecurity- Avian influenza. Final report of Science Committee for development of national standards of poultry Service Sector NABAC (CFIA) 2008

Inclusion Body Hepatitis prevalence project Design and funding application for OAPP Feb 2008
Inclusion Body Hepatitis Control project and working group reports OAPP June 17, 2010
Ontario IBH Control project, Vaccination Success story. CFO convention Nov 2011.

Salmonella enteritidis monitoring and control in broiler breeders: presentation and factsheets PHAC/BCMAL conference Vancouver 2010

Fowl pox outbreak 2011 report to OBHECC and IBH working group May 2011

Reovirus in broilers and emerging variants presentation OAPP Nov 2012.

Identification of DOA on fowl gas stunning line, validation study. Report to CFIA April 2013. presented to APP June 3, 2014.

Poultry transportation: potential federal policy changes. Report to OAPP November 2013

Processors Perspective on poultry handling and welfare. Presentation Transportation and inspection information conference, Guelph Sept 24, 2013.

Update on Poultry Disease incidence in Eastern Canada. Presentation poultry Service workshop Oct 2, 2013

Should this bird be loaded poster and guidelines, report of member development committee PIC/OMAFRA 2013

Timely euthanasia of compromised chicks/poults poster, report of member development committee PIC 2014.

Maple Lodge Farms research report on trailer and barn design, Report of Transport committee 2014.

Cold weather improvements utilizing Maple Lodge dolly transport system .(R.M.Ouckama, Ron MacDonald, Stephanie Torry) Report to company and presentation to Poultry Services Association Nov 2014

Improving Welfare for end of lay hens presentation Aquinac le rendez-vous Avicole, Drummondville Quebec, Nov 2014.

Efficacy of Ontario Broiler Breeder Salmonella Vaccination program Updated yearly 2015 -2019 Report to IBH working group and OAPV.

Analysis and recommendations on surveillance for broiler seven day mortality. Report of technical subcommittee to industry Chick and Flock performance working group April 2019.

History and incidence of Reovirus in Ontario. Expert report to Poultry Industry Exchange (PIE) July 2013

Conferences/Workshops, acted as primary organizer.

Poultry pathology Seminar, Ontario Association Poultry practitioners, June 1994

Poultry neonatal Conference: American Association of poultry Veterinarians Guelph June 1999

Broiler breeder seminar, In conjunction with OBCHEPA Oct 2000

Hatchery HACCP: Prerequisites workshop, Ont Hatchery Association, April 2000

Hatchery HACCP, part 2. Workshop, Ontario Hatcheries Association May 2001

Ontario Academy of avian medicine, Semi annual workshop for case reports/presentations since 1988

Maple Lodge Farms hatchery division Annual Hatching egg producers Seminar 1999- 2013

OAPP Tabletop FAD Simulation for Poultry Veterinarians June 2003

FAD simulation exercise for the Poultry Industry (PIC) November 2003