

Kenneth S. Macklin

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Education:

- Ph.D.** May 2003, Poultry Science, Auburn University, Auburn, AL.
Dissertation title: Influence of the chicken major histocompatibility complex on the development of *Escherichia coli* derived cellulites.
Advisor: Dr. Robert A. Norton
- M.Sc.** December 1995, Biological Sciences, Northern Illinois University, DeKalb, IL.
Thesis title: GVH responses between *B* and *Y* systems of the chicken MHC.
Advisor: Dr. W. Elwood Briles
- B.S.** May 1992, Biological Sciences, Northern Illinois University, DeKalb, IL.

I. Professional Experience:

- 2015-present Extension Specialist and Professor, Dept. of Poultry Science, Auburn University, Auburn AL.
Responsibilities include: Working with the poultry industry on litter management, foodborne bacteria and poultry health related issues. Assist small flock producers with health and management problems. Participate in poultry extension 4H activities. Research areas include: Developing best management practices for controlling/eliminating foodborne as well as poultry pathogens on poultry farms. Discover and/or refine methods for controlling *Eimeria* spp and *Clostridium perfringens* and determine if these methods as well as management practices provide a practical solution to necrotic enteritis control.
- 2010-2015 Extension Specialist and Associate Professor, Dept. of Poultry Science, Auburn University, Auburn AL.
Responsibilities include: Working with the poultry industry on health related issues. Assist backyard (small flock) producers with health and management issues. Participate in Departmental and College recruiting activities. Research areas include: Developing best management practices for controlling/eliminating foodborne as well as poultry pathogens on poultry farms. Discover and/or refine methods for controlling *Eimeria* spp and *Clostridium perfringens* and determine if these methods as well as

management practices provide a practical solution to necrotic enteritis control. Also when my expertise is needed, assist my colleagues.

- 2006-2010 Extension Specialist and Assistant Professor, Dept. of Poultry Science, Auburn University, Auburn AL.
Produce and provide information to the poultry industry on issues that relate to poultry production with an emphasis on poultry health and well being. Write and disseminate information related to biosecurity and management of backyard poultry growers. Actively recruit undergraduate students by participating in fairs, fests, and FFA activities. Research areas include: coccidiosis and dietary supplements, coccidiosis and the role of the birds genetics, in-house composting to minimize pathogens. Work with other researchers in the department on various projects. Coordinate the departmental journal club.
- 2004-2005 Research Fellow II, Dept. of Poultry Science, Auburn University, Auburn AL.
Establish an extension program in poultry health; this included participating in short courses dealing with coccidiosis, attending/participating in workshops, as well as on site visits with companies. Actively participate with Alabama's high school FFA poultry program and the recruitment of undergraduates to Auburn University. Involved with several research projects within the department working on issues related to food safety and avian health. Coordinate the Departmental Journal Club.
- 1998-2004 Research Associate III, Dept. of Poultry Science, Auburn University, Auburn AL.
Managed a BSL2 anaerobic microbiology lab; this included maintaining laboratory inventory, supervising and advising undergraduate and graduate students. Designed and performed a variety of experiments dealing with microbiological problems within the poultry industry. These experiments typically involved the use of molecular biological techniques in order to determine the origin of the microorganism in question. Assist R.A. Norton in teaching by giving lectures on immunology as well as demonstrating a variety of molecular procedures with bacteria. Developed and coordinated the departmental Journal Club.
- 1996-1998 Research Technician VII, Dept. of Poultry Science, Auburn University, Auburn AL.
Managed and conducted independent research in a poultry microbiology laboratory; assisted faculty, staff and graduate students in coordinating their laboratory projects.
- 1992-1995 Graduate Research Assistant, Dept. of Biological Sciences, Northern Illinois University, DeKalb IL.

Responsibilities included assisting in maintaining poultry genetic lines and in the production of antisera against several different alloantigens.

II. Assigned Duties - Since October 2010*

Allocation of Time 50% Extension 50% Research

III. Honors and Awards

College of Agriculture Dean's Grantsmanship Award, 2015
 AU Open Source Intelligence Laboratory – Affiliate Faculty, 2014
 Southern Conference on Avian Disease – Director, 2014
 Poultry Science Association Outstanding Service Award, 2012
 AU Food System Initiative Virtual Faculty, 2012
 Auburn University - Appointed to Graduate Faculty, 2010
 Poultry Science Association - Early Achievement Award in Extension, 2008
 Alabama FFA Association - Honorary State FFA Degree, 2006
 Sigma Xi - Promoted to Full Member, 2005

IV. Contributions

A. TEACHING

1. Courses Taught

	Course	Title	Lec/Lab	Enrollment
2017 Fall	POUL 7950	Graduate Seminar	1/0	5
2017 Fall	POUL 7980	Non-thesis Research	0/2	1
2017 Fall	FDSC 7990	Research and Thesis	0/2	1
2017 Summer	FDSC 7990	Research and Thesis	0/2	1
2017 Summer	POUL 7980	Non-thesis Research	0/2	1
2017 Spring	POUL 7950	Graduate Seminar	1/0	4
2017 Spring	POUL 7990	Research and Thesis	0/2	2
2016 Fall	POUL 7950	Graduate Seminar	1/0	8
2016 Fall	POUL 7990	Research and Thesis	0/3	2
2016 Summer	POUL 7990	Research and Thesis	0/3	2
2016 Spring	POUL 7950	Graduate Seminar	1/0	7
2016 Spring	POUL 7990	Research and Thesis	0/1	1
2016 Spring	POUL 7980	Non-thesis Research	0/4	2
2016 Spring	POUL 4100	Supervised Investigations	0/2	1
2015 Fall	POUL 7950	Graduate Seminar	1/0	7
2015 Fall	POUL 7990	Research and Thesis	0/5	1
2015 Fall	FDSC 7990	Research and Thesis	0/6	1
2015 Fall	POUL 7980	Non-thesis Research	0/1	1
2015 Summer	POUL 7990	Research and Thesis	0/9	2
2015 Summer	FDSC 7990	Research and Thesis	0/9	1
2015 Spring	POUL 7950	Graduate Seminar	1/0	7
2015 Spring	POUL 7990	Research and Thesis	0/5	2

2015 Spring	FDSC 7990	Research and Thesis	0/8	1
2014 Fall	POUL 7950	Graduate Seminar	1/0	5
2014 Fall	FDSC 7990	Research and Thesis	0/3	2
2014 Summer	FDSC 7980	Non-thesis Research	0/4	1
2014 Summer	FDSC 7990	Research and Thesis	0/4	2
2014 Summer	POUL 7990	Research and Thesis	0/3	2
2014 Spring	POUL 7950	Graduate Seminar	1/0	7
2013 Fall	POUL 7950	Graduate Seminar	1/0	6
2013 Summer	POUL 7990	Research and Thesis	0/1	2
2013 Summer	FDSC 7980	Non-thesis Research	0/1	1
2013 Spring	POUL 7990	Research and Thesis	0/9	1
2013 Spring	POUL 8950	Graduate Seminar	1/0	5
2013 Spring	POUL 4100	Supervised Investigations	0/1	1
2012 Fall	POUL 8950	Graduate Seminar	1/0	3
2012 Fall	POUL 7990	Research and Thesis	0/8	1
2012 Summer	POUL 8990	Research and Dissertation	0/1	1
2012 Summer	POUL 7990	Research and Thesis	0/9	1
2012 Spring	POUL 8950	Graduate Seminar	1/0	11
2012 Spring	POUL 4100	Supervised Investigations	0/7	3
2011 Fall	POUL 8950	Graduate Seminar	1/0	5
2011 Fall	POUL 8990	Research and Dissertation	0/5	1
2011 Fall	POUL 4100	Supervised Investigations	0/2	1
2011 Summer	POUL 8990	Research and Dissertation	0/6	1
2011 Spring	POUL 8950	Graduate Seminar	1/0	7
2011 Spring	POUL 8990	Research and Dissertation	0/9	1
2011 Spring	POUL 4100	Supervised Investigations	0/2	1
2010 Fall	POUL 8990	Research and Dissertation	0/2	1
2010 Summer	POUL 8990	Research and Dissertation	0/6	1
2010 Spring	POUL 8990	Research and Dissertation	0/2	1
2009 Fall	POUL 8990	Research and Dissertation	0/1	1
2009 Fall	POUL 7100	Supervised Investigations	0/3	1
2008 Fall	POUL 8970	Special Problems	0/3	1
2007 Fall	POUL 4100	Supervised Investigation	0/2	1
2007 Spring	POUL 8970	Special Problems	0/2	1
2004 Summer	POUL 8970	Special Problems	1/0	5
2003 Summer	POUL 8970	Special Problems	1/0	5

Courses Taught as Guest Lecturer

2018	VMED 9430	Poultry Medicine (2 lectures)
2017	POUL 5080	Poultry Health (2 lectures)
2017	VMED 5430	Poultry Medicine (2 lectures)
2016	POUL 5050	Advanced Poultry Feeding (1 lecture)
2016	POUL 5080	Poultry Health (2 lectures)
2016	VMED 5430	Poultry Medicine (2 lectures)
2015	POUL 5050	Advanced Poultry Feeding (1 lecture)
2015	POUL 5080	Poultry Health (2 lectures)
2015	VMED 5430	Poultry Medicine (2 lectures)

2014	POUL 5050	Advanced Poultry Feeding (1 lecture)
2014	POUL 5080	Poultry Health (2 lectures)
2013	POUL 5050	Advanced Poultry Feeding (1 lecture)
2013	POUL 5080	Poultry Health (2 lectures)
2012	POUL 5050	Advanced Poultry Feeding (1 lecture)
2012	POUL 5080	Poultry Health (2 lectures)
2011	POUL 5050	Advanced Poultry Feeding (1 lecture)
2011	POUL 5080	Poultry Health (2 lectures)
2010	POUL 5050	Advanced Poultry Feeding (1 lecture)
2010	POUL 5080	Poultry Health (1 lecture)
2009	POUL 5080	Poultry Health (1 lecture)
2008	POUL 5080	Poultry Health (2 lectures)
2007	POUL 5080	Poultry Health (2 lectures)
2006	POUL 5080	Poultry Health (2 lectures)

2. Graduate Students - Work Has Been Completed

a. Candidate as Major Professor

Zachary Williams – PhD (Consultant)
 Matthew Bailey – MS (Post Doc, University of Georgia)
 Moneca Landry – MAg (QA, Aviagen)
 Anthony Nathan Frazier – MS (Lab Technician, Alabama Diagnostic Lab)
 Katrina English – MS (Lab Technician, Vitamix)
 James Krehling – MAg (Lab Manager, Auburn University)
 Laci Olivia-Mackay – MAg (Lab Technician, Auburn University)
 Elle Chadwick – MS (PhD candidate NC State)
 Brittany Singh – MS

b. Candidate as Committee Member

Ashley Hendricks-Shaw - MS
 Diego Paiva – MS
 Ashley Shaw – PhD
 Rajani Thanissery – MS
 Shan-Chia Ou (Sam) – PhD
 Digvijay Gholap – MS
 Joshua Stough – MS
 Deepika Suresh – MS
 Teresa Dormitorio – PhD
 Janet Gradl – MS
 Tian Ren – PhD

c. Outside Reader

Ares Carrias – PhD

Staci Greer – PhD
Fatma Eldemery – PhD
Yen-Chen Juan - PhD

3. Graduate Students - in Progress

a. Candidate as Major Professor

Bradley Schrader – MAg
Lasheda Brooks – MS
Kaicie Chasteen - MS

b. Candidate as Committee Member

Kacey O'Donnell – MS – Dr. Zhai (MSU)
Seyed Abolghasem Fatemi (Saman) – PhD – Dr. Peebles (MSU)
Sara Croft – MS – Dr. Dozier
Stephanie Philpot – MS – Dr. Dozier

4. Courses and Curricula Developed

FDSC/POUL 7950 – This is the graduate seminar course that is required to be taken by every graduate student in the department. The changes in this course over its predecessor (POUL 8950) were to increase rigor by making it a graded course.

5. Grants Related to Teaching

N/A

6. Teaching Publications

N/A

7. Other Contributions to Teaching

The candidate is involved with the departmental efforts in the study abroad program. In 2014 the candidate traveled with seven students to Italy for a tour of Italian food production facilities (with Bilgili).

Volunteer Judge for the Graduate Student Research Forum 2003-06, 2008.

8. Statement of Teaching Philosophy

The candidate's appointment does not include a formal teaching component; however it is the role of every faculty member in the Department to participate in undergraduate teaching. This is especially true because the candidate's appointment is in Extension. The majority of the students within the Department will work with

the poultry industry in Alabama and will therefore become future clientele. For this reason it is important that they know the candidate and understand his role in continuing their education post graduation. To be visible to undergraduates the candidate has served as the faculty advisor to the Poultry Science Club, to which the majority of the Poultry Science Majors are members. This activity allows the candidate to foster a positive relationship with students, not only from Poultry Science but from other departments as well. In addition to the club, the candidate is actively involved in youth education events such as the Future Farmers of America Poultry Judging Contest and with the high school teacher education training sessions with Poultry Science.

Again, in a multidisciplinary major such as Poultry Science, it is paramount that students are exposed to the different individuals that make up the Department. This should give them a good resource base that they can reference when they enter their poultry careers. To further interactions with the students, when appropriate, the candidate is a guest lecturer for the Poultry Health Class and Advanced Poultry Feeding courses. In addition the candidate teaches the Graduate Seminar Course (7950) within the Department. These activities are an effective means that a faculty member with no formal teaching appointment, can contribute to the education of undergraduate and graduate students within the Department of Poultry Science.

B. RESEARCH/CREATIVE

1. Books

Macklin, K.S., J.B. Hess and P. Curtis, eds. 2014. Proceedings of the 2013 Quadrennial National Poultry Extensionist Meeting, pp 46, Orange Beach, AL, October 22-23. (70%)

Blake, J.P., J.B. Hess and **K.S. Macklin**, eds. 2012. Proceeding of the 2012 National Poultry Waste Management Symposium, pp. 153, Shreveport, LA, Oct. 23-25. (30%)

Blake, J.P., J.B. Hess and **K.S. Macklin**, eds. 2010. Proceeding of the 2010 National Poultry Waste Management Symposium, pp. 153, Greensboro, NC, Oct. 26-28. (25%)

Hess, J.B. J.P. Blake, **K.S. Macklin** and C. Coufal, eds. 2008. Proceeding of the National Poultry Waste Management Symposium, Balancing Economic and Environmental Issues, pp. 153, Des Moines, IA, Oct 21-23. (15%)

2. Article-Length Publications (Author Contributions)

a. Book Chapter

Macklin, K.S., ed., Overview of Helminthiasis in Poultry, in the 11th edition of

The Merck Veterinary Manual. 2013. Merial Select, Inc., Duluth, GA.
http://www.merckmanuals.com/vet/poultry/helminthiasis/overview_of_helminthiasis_in_poultry.html (100%).

Norton, R.A. and **K.S. Macklin**, eds., Helminthiasis, in the 10th edition of *The Merck Veterinary Manual*. 2009. Merial Select, Inc., Duluth, GA. (50%).

b. Refereed Journal Articles (*Student contribution)

Li, L., M. Luther, **K. Macklin**, D. Pugh, J. Li, J. Zhang, J. Roberts, B. Kaltenboeck and C. Wang. 2017. Chlamydia gallinacea: a widespread emerging Chlamydia agent with zoonotic potential in backyard poultry. *Epidemiology & Infection* 145 (13), 2701-2703. (10%).

*Dormitorio, T.V., J.J. Giambrone and **K.S. Macklin**. Litter composting procedures for inactivation of avian influenza virus in eggs. Revisions submitted *Avian Diseases*

*Gradl, J., P. Curtis, K. Keener, **K. Macklin** and R. Norton. 2016. Moisture content and moisture quantity of sweated chicken eggs in two storage environments. *Journal of Applied Poultry Research*, 25 (2), 1-8. (15%).

*Bailey, M.A., **K.S. Macklin** and *J.T. Krehling. 2015. Low prevalence of *netB* and *tpeL* in historical *Clostridium perfringens* isolates from broiler farms in Alabama. *Avian Disease*, 59 (1), 46-51. (50%)

*Bailey, M.A., **K.S. Macklin** and *J.T. Krehling. 2013. Use of a multiplex PCR for the detection of toxin-encoding genes *netB* and *tpeL* in strains of *Clostridium perfringens*. *ISRN Veterinary Science*,
<http://www.hindawi.com/isrn/veterinary.science/2013/865702/> (50%)

*Williams, Z.T. and **K.S. Macklin**. 2013. Stratification of bacterial concentrations from upper to lower, in broiler litter. *Journal of Applied Poultry Research*, 22 (3), 492-498. (40%)

*Dormitorio, T.V., J.J. Giambrone and **K.S. Macklin**. 2013. Detection and isolation of infectious laryngotracheitis virus on a broiler farm after a disease outbreak. *Avian Disease*, 57 (4), 803-807. (30%)

*Williams, Z.T. and **K.S. Macklin**. 2013. Reduction of Salmonella and ammonia emissions in broiler litter using sulfuric acid and aluminum sulfate. *International Journal of Poultry Science*, 12 (6), 328-334. (50%)

*Williams, Z.T., Blake, J.P. and **K.S. Macklin**. 2012. The effect of sodium bisulfate on Salmonella viability in broiler litter. *Poultry Science* 91(9): 2083-2088. (50%)

Berghaus, R.D., *D.L. Mathis, R. K. Bramwell, **K.S. Macklin**, J.L. Wilson, M.J. Wineland, J.J. Maurer, and M.D. Lee. 2012. Multilevel analysis of environmental *Salmonella* prevalences and management practices on 49 broiler breeder farms in four south-eastern states, USA. *Zoonoses and Public Health* 59:365-374. (15%)

*Shaw, A.L., **K.S. Macklin** and J.P. Blake. 2012. Phytase supplementation in a reduced calcium and phosphorous diet fed to broilers undergoing an *Eimeria* challenge. *The Journal of Poultry Science* 49(3): 178-182. (30%)

*Ou, S.-C., J.J. Giambrone and **K.S. Macklin**. 2012. Detection of infectious laryngotracheitis virus from darkling beetles and their immature stage (lesser mealworm) by quantitative polymerase chain reaction and virus isolation. *Journal of Applied Poultry Science*. 21(1): 33-38. (30%)

*McCrea, B.A., *M.A. Leslie, *L.M. Stevenson, **K.S. Macklin**, *L.J. Bauermeister and J.B. Hess. 2012. Live performance characteristics, pathogen load and foot pad lesions in range-reared heritage vs. conventional turkeys (*Meleagris gallopavo*). *International Journal of Poultry Science* 11(7): 438-444. (20%)

*Ou, S.-C., J. Giambrone, **K. Macklin**. 2012. Comparison of a Taqman® real time PCR with a loop-mediated isothermal amplification assay for detection of Infectious Laryngotracheitis. *Journal of Veterinary Diagnostic Investigation*. 20(10): 1-4. (15%)

*Shaw, A. L., F. van Ginkel, **K. Macklin**, J. Blake. 2011. Effects of phytase supplementation in broiler diets on a natural *Eimeria* challenge in naive and vaccinated birds. *Poultry Science*, 90: 781-790. (30%)

*Ou, S.-C., J. Giambrone, **K. Macklin**. 2011. Infectious laryngotracheitis vaccine virus detection in water lines and effectiveness of sanitizers for inactivating the virus. *The Journal of Applied Poultry Research*, 20(2), pp. 223-230. (40%)

Macklin, K.S. and J.T. Krehling. 2010. The use of metam-sodium to reduce bacteria in poultry litter. *Journal of Applied Poultry Research*, 19(3): 274-278. (80%).

*Shaw, A., *L. Stevenson and **K.S. Macklin**. 2010. Improving research at universities to benefit the poultry industry. *Journal of Applied Poultry Research*, 19(3): 307-311. (40%).

*Pavia, D.M., **K.S. Macklin**, S.B. Price, J.B. Hess, D.E. Conner, and M. Singh. 2010. Efficacy of a commercial concrete sealant against *Listeria* spp.: A model

for poultry processing facilities. *Journal of Applied Poultry Research*, 19: 146-151. (20%).

*Thanissery, R., J.L. McReynolds, D.E. Conner, **K.S. Macklin**, P.A. Curtis and Y.O. Fasina. 2010. Evaluation of the efficacy of a yeast extract in reducing intestinal *Clostridium perfringens* levels in broiler chickens. *Poultry Science* 89:2380-2388. (15%)

*Pavia, D.M., M. Singh, **K.S. Macklin**, S.B. Price, J.B. Hess and D.E. Conner. 2010. Evaluation of concrete sealant for the elimination of *Clostridium perfringens* and *Bacillus subtilis*: A poultry processing plant model. *International Journal of Poultry Science* 9: 212-216. (25%).

*Paiva, D.M., M. Singh, **K.S. Macklin**, S.B. Price, J.B. Hess and D.E. Conner. 2009. Antimicrobial activity of commercial concrete sealant against *Salmonella* spp: A model for poultry processing plants. *International Journal of Poultry Science* 8 (10): 939-945. (25%).

*Shaw, A.L., **K.S. Macklin** and J.P. Blake. 2009. Effects of vitamin U on ameliorating coccidial and salmonellosis challenges in broilers. *Journal of Applied Animal Research*. 36: 17-22. (35%)

Bilgili, S.F., J.B. Hess, J.P. Blake, **K.S. Macklin**, *B. Saenmahayak and J.L. Sibley. 2009. Influence of bedding material on foot pad dermatitis in broiler chickens. *Journal of Applied Poultry Research* 18: 583-589. (15%)

Macklin, K.S., R.A. Norton and S.J. Ewald. 2009. Effect of the major histocompatibility complex (MHC) on the inhibition of induced cellulitis development in a broiler chicken model. *Avian Diseases* 53 (2): 297-300. (80%)

Hess, J.B. **K.S. Macklin** and *B.A. McCrea. 2008. Litter beetle (*Alphitobius diaperinus* Panzer) counts in broiler houses treated with a range of insecticides. *Journal of Applied Animal Research*, 33:127-131. (40%).

Lien, R.J., **K.S. Macklin**, J.B. Hess, W.A. Dozier III and S.F. Bilgili. 2008. Effects of early skip-a-day feed removal and litter material on broiler live and processing performance and litter bacterial levels. *International Journal of Poultry Science*. 7(2): 110-116 (30%).

Bano, L., I Drigo, **K.S. Macklin**, S.W. Martin, *R.S. Miller, R.A. Norton, O.A. Oyarzabal and S.F. Bilgili. 2008. Development of a polymerase chain reaction assay for specific identification of *Clostridium colinum*. *Avian Pathology*, 37(2): 179-181. (20%).

*McCrea, B.A., **K.S. Macklin**, R.A. Norton, J.B. Hess and S.F. Bilgili. 2008. Recovery and genetic diversity of *Escherichia coli* isolates from deep litter,

shallow litter and surgical shoe covers. *Journal of Applied Poultry Research*, 17(2): 237-242. (35%).

Macklin, K.S., J.B. Hess and S.F. Bilgili. 2008. In-house windrow composting and its effects on foodborne pathogens. *Journal of Applied Poultry Research*, 17: 121-127. (90%).

Giambrone, J.J., *O. Fagbohun and **K.S. Macklin**. 2008. Management practices to reduce infectious laryngotracheitis virus in poultry litter. *Journal of Applied Poultry Research*, 17: 64-68. (40%).

*McCrea, B.A. and **K.S. Macklin**. 2006. Effect of different cleaning regimens on recovery of *Clostridium perfringens* on poultry live haul containers. *Poultry Science*, 85(5):909-913. (40%)

*McCrea, B.A., **K.S. Macklin**, R.A. Norton, J.B. Hess and S.F. Bilgili. 2006. A longitudinal study of *Salmonella* and *Campylobacter jejuni* isolates from day of hatch through processing using automated ribotyping. *Journal of Food Protection*, 69(12):2908-2914. (30%).

Macklin, K.S., J.B. Hess, S.F. Bilgili and R.A. Norton. 2006. The use of in-house composting to reduce bacterial numbers between growouts. *Journal of Applied Poultry Research*, 15: 531-537. (75%)

*McCrea, B.A., R.A. Norton, **K.S. Macklin**, J.B. Hess and S.F. Bilgili. 2005. Recovery and genetic similarity of *Salmonella* from broiler house drag swabs versus surgical shoe covers. *Journal of Applied Poultry Research*, 14: 694-699. (30%)

*Wang, C., **K.S. Macklin**, J.T. Krehling, and R.A. Norton. 2005. Influence of infectious bursal disease and chicken anemia vaccines on the development of cellulitis and myositis lesions in cage-reared broilers. *Journal of Applied Animal Research*, 27: 65-69. (30%)

Oyarzabal, O.A., **K.S. Macklin**, *R.S. Miller, and J.M. Barbaree. 2005. Evaluation of agar plates for direct enumeration of *Campylobacter* spp. from poultry carcass rinses. *Applied and Environmental Microbiology*, 71: 3351-3354. (25%)

Macklin, K.S., J.B. Hess, S.F. Bilgili, and R.A. Norton. 2005. Bacterial levels of pine shavings and sand used as poultry litter. *Journal of Applied Poultry Research*, 14: 238-245. (60%)

*Wang, C., R.A. Norton, **K.S. Macklin**, and J.T. Krehling. 2005. The effect of chicken anemia and infectious bursal disease vaccines and Marek's disease virus

on the development of cellulitis and myositis lesions in floor-reared MHC-defined broiler chickens. *Journal of Applied Animal Research*, 27: 1-5. (40%)

van Santen, V.L., B. Kaltenboeck, *K.S. Joiner, **K.S. Macklin**, and R.A. Norton. 2004. Real-time quantitative PCR-based serum neutralization test for detection and titration of neutralizing antibodies to chicken anemia virus. *Journal of Virological Methods*, 115: 123-135 (5%)

Downs, K.M., R.A. Norton, J.B. Hess, and **K.S. Macklin**. 2004. Micronutrient strategies for the control of cellulitis in broilers. *Nutrition Abstracts and Reviews. Series B, Livestock Feeds and Feeding*, 74: 33N-37N. (25%)

Downs, K.M., R.A. Norton, **K.S. Macklin**, and J.B. Hess. 2003. The potential for vitamin E and zinc-amino acid complex to reduce cellulitis in broilers. *Journal of Applied Animal Research*, 23: 25-32. (25%)

Macklin, K.S., S.J. Ewald, and R.A. Norton. 2002. Major histocompatibility complex (MHC) effect on cellulitis among different chicken lines. *Avian Pathology*, 31: 371-376. (80%)

*Wilder, T.D., J.M. Barbaree, **K.S. Macklin** and R.A. Norton. 2001. Differences in the pathogenicity of various bacterial isolates used in an induction model for gangrenous dermatitis in broiler chickens. *Avian Disease*, 45: 659-662. (40%)

Norton, R.A., **K.S. Macklin**, and *B.L. McMurtrey. 2000. The association of various isolates of *Escherichia coli* from the United States with induced cellulitis and colibacillosis in young broiler chickens. *Avian Pathology*, 29: 571-574. (50%)

Macklin, K.S. and R.A. Norton. 2000. The efficacy of vitamin E in the prevention of cellulitis in broiler chickens experiencing scratches in a challenge model. *Avian Disease*, 44: 701-705. (60%)

*Downs, K.M., J.B. Hess, **K.S. Macklin**, and R.A. Norton. 2000. Dietary zinc complexes and vitamin E for reducing cellulitis incidence in broilers. *Journal of Applied Poultry Research*, 9: 319-323. (25%)

Macklin, K.S., R.A. Norton, and *B.L. McMurtrey. 1999. Scratches as a component in the pathogenesis of avian cellulitis in broiler chickens exposed to multiple cellulitis origin *Escherichia coli* isolates collected in different regions of the United States. *Avian Pathology*, 28: 573-578. (80%)

Norton, R.A., **K.S. Macklin**, and *B.L. McMurtrey. 1999. Evaluation of scratches as an essential element in the development of avian cellulitis in broiler chickens. *Avian Diseases*, 43: 320-325. (50%)

3. Papers and Lectures

a. Papers at Professional Meetings – Full Length Text Prepared and Distributed at the Meeting (*Student contribution)

Hess, J., S. Bilgili, **K. Macklin**, W. Berry, J. Sibley, A. Torbert, D. Watts, J. Davis and O. Cengiz. 2016. Influence of various alternative bedding on foot pad dermatitis (FPD) in broiler chickens raised in a built-up litter system. In: Proceedings of the XXV World's Poultry Congress, Sept. 5-9, 2016, Beijing, China. (20%).

Macklin, K., *E. Chadwick, J. Krehling, L. Olivia and *B. Schrader. 2016. Comparing *Salmonella* Enteritidis and *Salmonella* Heidelberg colonization in broiler chickens that were continuously exposed to these bacteria in the feed. In: Proceedings of the XXV World's Poultry Congress, Sept. 5-9, 2016, Beijing, China. (60%).

Macklin, K.S., *E.V. Chadwick, *J.T. Krehling, *L.B. Olivia and *B.C. Schrader. 2016. A comparison of *Salmonella* Enteritidis colonization in broiler chickens following an intertracheal and subcutaneous challenge. In: Proceedings of the 65th Western Poultry Disease Conference, April 24-27, 2016, Vancouver, BC, Canada. (60%).

Hess, J.B., W. Pacheco, W.A. Dozier, **K.S. Macklin** and W.D. Berry, 2015. Identifying and Troubleshooting Nutritional Problems. Aviagen Nutritional School, October 15-16, 2015, Auburn, AL. (5%).

Hess, J.B., S.F. Bilgili, **K.S. Macklin** and J.L. Sibley, 2015. Alternative Litter (Bedding) Sources for Broilers. Atlantic Poultry Conference, Feb. 11-13, 2015, Greenwich, Nova Scotia, Canada. (20%).

Hess, J.B. **K.S. Macklin**, S.F. Bilgili and W.A. Dozier, 2015. Contributors to Paw Burns in Broilers. Atlantic Poultry Conference, Feb. 11-13, 2015, Greenwich, Nova Scotia, Canada. (10%).

Macklin, K.S., *L.B. Olivia and W.A. Dozier III. 2014. Effects of distillers dried grains with solubles (DDGS) on necrotic enteritis development in broiler chickens. Proceedings of the XIVth European Poultry Conference, pg. 4. June 23-27, 2014. Stavanger, Norway. (75%).

Conner, D.E., M. Singh, **K.S. Macklin**, and J.B. Hess. 2013. Impact of processing equipment and facility materials on establishment and persistence of foodborne pathogens. EggMeat Symposia, pg. 5. September 15-19, 2013. Bergamo, Italy. (15%)

Macklin, K.S., J.B. Hess and S.F. Bilgili. 2013. Poultry bedding sources and litter management. Second International Poultry Meat Congress, pg. 3. April 24-28, 2013. Antalya, Turkey. (75%)

Macklin, K.S., M.R. Liles, *Z.T. Williams and J.P. Blake. 2013. The use of bacteria to control ammonia and pathogens in litter. Midwest Poultry Federation Convention, pg. 5. March 13-14, 2013. Saint Paul, MN. (60%)

Macklin, K.S. 2013. Managing Poultry Waste. 3rd Incoftech Meeting, p. 115-118. January 4-5, 2013. Thanjavur, Tamil Nadu, India. (100%)

*Gholap, D.B., **K.S. Macklin**, J.P. Blake, and S.F. Bilgili. 2012. Efficacy of a chemical and a biological litter amendment in commercial broiler facilities. Proceedings of the 2012 National Poultry Waste Management Symposium, pg. 5. October 23-25, 2012, Shreveport, LA. (25%)

*Gholap, D.B., **K.S. Macklin**, J.P. Blake, and S.F. Bilgili. 2012. Poultry Litter Treatment (PLT) usage in commercial broiler houses for three consecutive flocks. Proceedings of the 2012 National Poultry Waste Management Symposium, pg. 5. October 23-25, 2012, Shreveport, LA. (25%)

*Williams, Z.T. and **K.S. Macklin**. 2012. Use of Microbial Litter Amendments to Control Pathogens in Poultry Litter. Proceedings of the 2012 National Poultry Waste Management Symposium, pg. 3. October 23-25, 2012, Shreveport, LA. (25%)

Hess, J.B., J.P. Blake, **K.S. Macklin**, T. Smith, D. Toddes and T. Esslinger. 2012. Constructed Wetlands to Enhance Poultry Processing Waste Water Management. Proceedings of the 2012 National Poultry Waste Management Symposium, pg.2. October 23-25, 2012, Shreveport, LA. (15%)

Hess, J.B., J.P. Blake, S.F. Bilgili, and **K.S. Macklin**. 2012. Local Alabama aquifer water quality effects on broiler production and processing. Proceedings of the 2012 Alabama Water Resources Conference, September 5 – 7 2012, Orange Beach, AL. (15%)

*Williams, Z., *M. Bailey, M. Liles, M. and **K.S. Macklin**. 2012. Reduction of *Salmonella* and broiler litter ammonia using two *Bacillus subtilis* strains. In: Proceedings of the XXIV World's Poultry Congress, August 5-9, 2012, Salvador, Bahia, Brazil. (25%)

Macklin, K.S., J.P. Blake, J.B. Hess and S.F. Bilgili. 2012. The use of acidifying litter treatments and their effects on ammonia and bacterial levels in litter. In: Proceedings of the XXIV World's Poultry Congress, August 5-9, 2012, Salvador, Bahia, Brazil. (50%)

Macklin, K.S., B.A. McCrea, B.A., J.T. Krehling, J.T. and M. Singh. 2012. A comparison of different commercially available media for the recovery of *Clostridium perfringens* from litter. In: Proceedings of the XXIV World's Poultry Congress, August 5-9, 2012, Salvador, Bahia, Brazil. (50%)

Macklin, K.S., *Z.T. Williams, *M.A. Bailey. 2012. The effect of a sealant on preventing litter beetle penetration in different types of insulation. Proceedings of the 61st Western Poultry Disease Conference, p.111-112. April 2-4, 2012, Scottsdale, AZ. (75%)

*Gholap, D., **K. Macklin**, J. Blake, and S. Bilgili. 2012. Estimation of the efficacy of a chemical and a biological litter amendment in reducing ammonia levels, bacterial load, and paw lesions in commercial broiler facilities. Proceedings of the 61st Western Poultry Disease Conference, p.103-105. April 2-4, 2012, Scottsdale, AZ. (25%)

*Williams, Z., *M. Bailey, J. Blake, and **K. Macklin**. 2012. Controlling broiler litter ammonia emissions with chemical litter amendments. Proceedings of the 61st Western Poultry Disease Conference, p.120. April 2-4, 2012, Scottsdale, AZ. (30%)

Hess, J., J. Blake, **K. Macklin**, T. Smith, D. Toddes, T. Esslinger. 2011. A constructed wetlands to enhance final treatment of waste water from a poultry processing plant. Proceedings of the 25th Annual Alabama Water Resource Conference. September 8-9, 2012. Orange Beach, AL. (15%)

Giambrone, J., **K. Macklin**, S.-C. Ou, 2011. Infectious laryngotracheitis virus (ILTV) detection in drinking lines and effectiveness of sanitizers for inactivating the virus. In: Proceedings of the 1st International Avian Respiratory Diseases Conference. May 15-18, 2011, University of Georgia, Athens, GA. (15%)

*Landry, M.M., D.M. Carpenter, **K.S. Macklin**, G.S. Weaver, W.D. Berry and R.A. Norton. 2011. Application of metadata analysis and text analytics to examine avian influenza research. In: Proceedings of the 60th Western Poultry Disease Conference, p 120-122. March 21-23, 2011, Sacramento, CA. (10%).

Macklin, K.S., *L.N. Rose and W.A. Dozier III. 2011. The effects of different levels of DDGS on necrotic enteritis development in broiler chickens. In: Proceedings of the 60th Western Poultry Disease Conference, p 123-125. March 21-23, 2011, Sacramento, CA. (70%).

*Williams, Z., A. Segrest, *M. Bailey, J. Krehling and **K. Macklin**. 2010. Concentrations of different types of pathogenic bacteria in varying levels of used broiler litter: top, middle and bottom. In: Proceedings of the 2010 National Poultry Waste Symposium, p 4. Oct. 26-28, 2010. Greensboro, NC. (20%).

Blake, J.P., J.B. Hess and **K.S. Macklin**. 2010. Estimating litter nutrients for broiler chickens. In: Proceedings of the 2010 National Poultry Waste Symposium, p 4. Oct. 26-28, 2010. Greensboro, NC. (25%).

Blake, J.P., J.B. Hess and **K.S. Macklin**. 2010. Litter treatment usage and trace element accumulation in broiler litter. In: Proceedings of the 2010 National Poultry Waste Symposium, p 4. Oct. 26-28, 2010. Greensboro, NC. (25%).

Macklin, K.S., *D.M. Paiva and M. Singh. 2009. The efficacy of Biosealed in preventing *Salmonella* spp. from colonizing concrete surfaces. In: Proceedings of the 58th Western Poultry Disease Conference, p. 99. March 23-25, 2009, Sacramento, CA. (60%).

Blake, J.P., J.B. Hess and **K.S. Macklin**. 2009. Evaluation of litter treatment regimens at three usage levels. In: Proceedings of the 58th Western Poultry Disease Conference, p. 17-19, March 23-25, 2009, Sacramento, CA. (15%).

Hess, J.B., **K.S. Macklin**, S.F. Bilgili, T.A. McCaskey and J.P. Blake. 2009. Broiler litter management and trends. In: the Proceedings of the Midwest Poultry Federation Convention, March 18-19, 2009, Saint Paul, MN. 3 pp. (15%)

Pickens, J.M., J.L. Sibley, C.H. Gilliam, S.F. Bilgili, J.B. Hess, **K.S. Macklin**, and J.O. Donald. 2009. Evaluation of bark-based poultry litter as a substrate component in nursery crop production. February 12-13, 2009. Proc. SNA Res. Conf. 54:121-123. (10%)

Hess, J.B. **K.S. Macklin**, S.F. Bilgili, J.P. Blake, and R.A. Norton. 2008. In-house litter composting of broiler litter. 2008. In: Proceedings of the National Poultry Waste Management Symposium p. 48-51, October 21-23, 2008. Des Moines, IA. (40%)

Bilgili, S.F., J. B. Hess, **K. S. Macklin**, *B. Saenmahayak, J. P. Blake and J. L. Sibley. 2008. Alternative bedding sources for broilers. 2008. In: The Proceedings of the National Poultry Waste Management Symposium p. 108-110, October 21-23, 2008. Des Moines, IA. (20%)

Blake, J.P., J.B. Hess and **K.S. Macklin**. 2008. Effectiveness of PLT, All-Clear, and hydrated lime for reduction of ammonia volatilization in broiler production. 2008. In: The Proceedings of the National Poultry Waste Management Symposium, p. 111-113. October 21-23, 2008. Des Moines, IA. (20%)

Blake, J.P., J.B. Hess and **K.S. Macklin**. 2008. Poultry Guard, sulfuric acid and A-7 treatments for reduction of ammonia volatilization in broiler production. 2008. In: Proceedings of the National Poultry Waste Management Symposium, p. 114-117, October 21-23, 2008. Des Moines, IA. (20%)

Macklin, K.S., J.P. Blake, and J.B. Hess. 2008. Effectiveness of All-Clear, hydrated lime and Poultry Litter Treatment (PLT) for reduction of litter bacterial levels. 2008. In: The Proceedings of the National Poultry Waste Management Symposium, p. 124-127, October 21-23, 2008. Des Moines, IA. (80%)

Macklin, K.S., J.P. Blake, and J.B. Hess. 2008. Effectiveness of Poultry Guard, sulfuric acid and Al+Clear-A7 for reduction of litter bacterial levels. 2008. In: The Proceedings of the National Poultry Waste Management Symposium, p. 128-131, October 21-23, 2008. Des Moines, IA. (80%)

Blake, J.P., J.B. Hess, **K.S. Macklin** and C.A. Wilson. 2008. Effectiveness of litter treatments for reduction of ammonia volatilization. In: Proceedings of the XXIII World's Poultry Congress, Brisbane, Australia. *Worlds's Poult. Sci. J.* 64(Suppl. 2), 4 pp (15%)

*Shaw, A.L., **K.S. Macklin**, and J.P. Blake. 2008. Influence of vitamin U on ameliorating an infectious challenge. In: Proceedings of the XXIII World's Poultry Congress, Brisbane, Australia. *Worlds's Poult. Sci. J.* 64(Suppl. 2), 4 pp. (40%)

Patterson, P.H., R. M. Hulet, G.W. Malone, J.B. Hess, J.P. Blake, **K.S. Macklin**, T.K. Lavergne, M.F. Stevens, A.H. Cantor, A.J. Pescatore, W.J. Powers, Y. Liang, S.L. Noll, C. W Ritz, B.D. Fairchild, P.A. Gay and C.D. Coufal. 2008. Air and water quality challenges in the US: Implications for global poultry industries. In: The Proceedings of the Massey Poultry Conference, June 25, 2008, Massey, New Zealand. 6 pp. (5%)

Blake, J.P., J.B. Hess and **K.S. Macklin**. 2008. Effectiveness of litter treatments for reduction of ammonia volatilization in broiler production. p. 64-67. In: Conference Proceedings Mitigating Air Emissions from Animal Feeding Operations, Iowa State University, College of Agriculture and Life Sciences, Ames, IA. (15%).

Gustafson, C., **K. Macklin**, and K. Cookson. 2008. Efficacy study comparing the effect of administering a live *E. coli* vaccine by various routes. Proceedings of the 57th Western Poultry Disease Conference. 9-12 April, Puerto Vallarta, Jalisco, Mexico. 3 pp. (40%).

Macklin, K.S., J.P. Blake and J.B. Hess. 2008. Direct application of acid to control ammonia and bacterial levels in litter. Proceedings of the 57th Western Poultry Disease Conference. 9-12 April, Puerto Vallarta, Jalisco, Mexico. 3 pp. (85%)

Hess, J.B., K.M. Downs, **K.S. Macklin**, R.A. Norton, and S.F. Bilgili. 2007. Organic trace minerals for broilers and breeders. In: The Proceedings of the Arkansas Nutrition Conference. 11-13 September, Rogers, Arkansas. 6 pp. (15%)

Cookson, K., **K.S. Macklin**, and J.J. Giambrone. 2007. The efficacy of modified *E. coli* vaccine using a broiler skin challenge. In: Proceedings of the 56th Western Poultry Disease Conference. 26-29 March, Las Vegas, Nevada, pp. 38-39. (40%)

Cookson, K., **K.S. Macklin**, J.J. Giambrone and H. Toro. 2007. The influence of *E. coli* inoculum titer and virally induced immune suppression on the incidence of cellulitis in a broiler skin challenge model. In: Proceedings of the 56th Western Poultry Disease Conference. 26-29 March, Las Vegas, Nevada, pp. 43-44. (40%)

Macklin, K.S., J.P. Blake, J.B. Hess, and R.A. Norton. 2007. Effects of Poultry Litter Treatment (PLT) and aluminum sulfate (alum) on ammonia and bacterial levels in poultry litter. In: Proceedings of the 56th Western Poultry Disease Conference. 26-29 March, Las Vegas, Nevada, pp. 105-107. (70%)

Giambrone, J.J., *S. Fagbohun and **K.S. Macklin**. 2007. Management methods to reduce infectious laryngotracheitis virus. In: Proceedings of the 56th Western Poultry Disease Conference. 26-29 March, Las Vegas, Nevada, pp. 58. (15%)

Macklin, K.S. and *B.A. McCrea. 2006. Comparison of commercially available media in recovering *Clostridium perfringens* from poultry litter. In: Proceedings of the National Poultry Waste Management Symposium, October 23-25, Fayetteville, AR. p. 77-80. (75%)

Blake, J.P., J.B. Hess, **K.S. Macklin**, S.F. Bilgili, A.E. Sefton and A. Kocher. 2006. Mannan oligosaccharides (Bio-Mos) supplementation of wheat-based diets for broilers. 6 pp. In: Proceedings XII European Poultry Conference, Verona, Italy (25%)

Blake, J.P., J.B. Hess, **K.S. Macklin**, S.F. Bilgili, A.E. Sefton and A. Kocher. 2006. Broiler live performance on wheat-based feeds supplemented with mannan oligosaccharides (Bio-Mos). 2006. In: Proceedings of Alltech's 22nd Annual Symposium. April 23-26, 2006. Lexington, KY. p. 28-30. (25%)

Blake, J.P., J.B. Hess, **K.S. Macklin**, S.F. Bilgili, A.E. Sefton and A. Kocher. 2006. Mannan oligosaccharides (Bio-Mos) supplementation of wheat-based diets for broilers. 2006. In: Proceedings of Alltech's 22nd Annual Symposium. April 23-26, 2006. Lexington, KY. p. 31-33. (25%)

Macklin, K.S., J.P. Blake, R.A. Norton, J.B. Hess and S.F. Bilgili. 2006. Litter bacterial levels associated with broilers fed Bio-Mos (mannan oligosaccharides). 2006. In: Proceedings of Alltech's 22nd Annual Symposium. April 23-26, 2006. Lexington, KY. p. 34-35. (75%)

Macklin, K.S. and *B.A. McCrea. 2006. Comparison of media for the recovery of *Clostridium perfringens* from litter. In: Proceedings of the 55th Western Poultry Disease Conference. 5-8 March, Sacramento, California, pp. 50-52. (75%)

Hess, J.B., **K.S. Macklin**, J.P. Blake and T. Lavergne. 2005. Managing broiler litter for bird health and performance. 2005. In: The Proceedings of the Midwest Poultry Federation Convention, March 15-17, 2005. St Paul, MN. 6 pp. (40%)

Macklin, K.S., J.B. Hess, S.F. Bilgili, M.K. Eckman, J.P. Blake and R.A. Norton. 2003. Pine shavings and sand used as poultry litter and their respective bacterial levels. (Proc.) Proceedings of the 49th Western Poultry Disease Conference. 5-7 March, Sacramento, California, pp. 52-54. (65%)

Hess, J.B., M.K. Eckman, S.F. Bilgili, *B.D. Bowers, R.A. Norton, **K.S. Macklin** and E.A. Guertal. 2002. Thoughts on sand as litter. (Proc.) Proceedings of Arkansas Poultry Symposium. Springdale, Arkansas, p. 1-9. (10%)

Macklin, K.S., R.A. Norton, and J.P. Blake. 2000. Surveillance of dead bird digesters in Alabama. (Proc.) Proceedings of the Alliance for Environmental Stewardship: A Comprehensive Approach, pp. 204-212. (60%)

Macklin, K.S., R.A. Norton, and S.J. Ewald. 2000. Effect of the major histocompatibility complex (MHC) on inhibiting cellulitis development from various *Escherichia coli* isolates. (Proc.) Proceedings of the 49th Western Poultry Disease Conference. 5-7 March, Sacramento, California, pp. 63-65. (90%)

b. Papers at Professional Meetings – Published Abstracts (*Student contribution)

*Kallenberg, I., J. Giambrone, **K. Macklin**, T. Dormitorio. 2017. The role of litter beetles, water, and rodents in avian influenza virus transmission. Abstract T146. Poultry Science vol. 96 (E-Suppl. 1): 288. (20%).

*Chadwick, E., J. Krehling, L. MacKay, *B. Schrader, **K. Macklin**. 2017. Environmental influences of Salmonella Heidelberg colonization in commercial broilers. Abstract M51. Poultry Science vol. 96 (E-Suppl. 1): 261. (20%).

*Singh, B., J. Krehling, *E. Chadwick, *B. Schrader and **K. Macklin**. 2017. Bacterial litter amendments to control ammonia. Abstract P224. Poultry Science vol. 96 (E-Suppl. 1): 299. (25%).

*Schrader, B., *Elle Chadwick, L. MacKay, J. Krehling and **K. Macklin**. 2017. Effect of multi-strain Bacillus probiotic on performance parameters of broiler chickens. Abstract P292. Poultry Science vol. 96 (E-Suppl. 1): 299. (20%).

*Schrader, B., *E. Chadwick, L. MacKay, J. Krehling and **K. Macklin**. 2017. Effect of multi-strain *Bacillus* probiotic on the ileal and cecal microbiota of broiler chickens, Abstract 547P. Poultry Science vol. 96 (E-Suppl. 1): 198. (20%).

*Chadwick, E., J. Krehling, *B. Singh, *B. Schrader and **K. Macklin**. 2017. Differences in recovery of *Salmonella* Heidelberg when chicks are inoculated on days 0 and 14. Abstract 67. Poultry Science vol. 96 (E-Suppl. 1): 24-25 (25%).

Chowdhury, E., K. Macklin, J. Giambrone and B. Kaltenboeck. 2017. A synthetic biodegradable microparticle vaccine of femtomole-dosed peptide antigens protects against Infectious Bursal Disease virus and shows growth promotion and better feed efficiency in chickens. XXXXXX

Dormitorio, T.V., J.J. Giambrone and **K.S. Macklin**. 2016. Litter composting procedures of Avian Influenza Virus in eggs. Abstract presented at the 2016 meeting of the American Association of Avian Pathologist. San Antonio, TX August 6-9, 2016. (25%).

*Chadwick, E., *J. Krehling, *L. MacKay, *B. Schrader and **K.S. Macklin**. 2016. Recovery of *Salmonella* Enteritidis and Heidelberg from marker age broilers when inoculated as chicks. Abstract 66. Poultry Science vol. 95 (E-Suppl. 1): 22. (20%).

*MacKay, L.B., *J.T. Krehling, T., Y.-T. Wang, *E.V. Chadwick, *B. Schrader, **K.S. Macklin**. 2016. Effects of *Bacillus* direct-fed microbial and plant extracts on the prevalence of necrotic enteritis when challenged with a necrotic enteritis model. Abstract 337P. Poultry Science vol. 9 (E-Suppl. 1): 116. (20%).

*Krehling, J.T., *L.B. MacKay, *B. Schrader, *E.V. Chadwick, J.B. Hess and **K.S. Macklin**. 2016. Effect of a direct-fed sulfur on ammonia emission in built-up litter. Abstract 378P. Poultry Science vol. 9 (E-Suppl. 1): 128. (20%).

*Schrader, B.C., *E.C. Chadwick, *L.B. MacKay, *J.T. Krehling, M.R. Liles and **K.S. Macklin**. 2016. The *in vitro* effectiveness of four *Bacillus* strains against three major pathogens. Abstract 478P. Poultry Science vol. 9 (E-Suppl. 1): 160. (20%).

*Velasquez, C.G., *M. Bailey, S. Corkran, **K.S. Macklin** and M. Singh. 2016. Antimicrobial resistance patterns of *Salmonella* isolated from poultry farms. Abstract 492P. Poultry Science vol. 9 (E-Suppl. 1): 164. (10%).

*Schrader, B., *E. Chadwick, Y. Li, **K. Macklin** and A. Morey. 2016. Evaluation of objective methods to detect woody breast and white striping myopathy. Abstract M11. Poultry Science vol. 9 (E-Suppl. 1): 198. (10%).

*Chadwick, E.V., **K. Macklin**, *J. Krehling, *L. MacKay, *A., Frazier, *B. Schrader. 2016. Determination of the route of challenge and eventual colonization sites of *Salmonella enterica* serovar Enteritidis when chicks are inoculated on day 0. Abstract M16. Poultry Science vol. 94 (E-Suppl. 1): 199. (20%).

Macklin, K.S. and L.B. MacKay*. 2015 Effect of *Clostridium perfringens* dose on necrotic enteritis development. Abstract presented at the 3rd International Health Scientific Interest Group (IHSIG) Symposium, Ghent, Belgium. October 15-16, 2015 (75%).

*Velasquez, C., *M. Bailey, S. Corkran, **K. Macklin** and M. Singh. 2015. Antimicrobial resistance patterns of *Salmonella* isolated from poultry farms. Abstract presented at the Indiana State Poultry Association “Poultry Days”, Indianapolis, IN, September 17, 2015.

*MacKay, L.B., D. Miller, A. Burgess, M.L. Marks, J.B. Hess and **K.S. Macklin**. 2015. Chick Chain: bridging the gap. Abstract 7. Poultry Science vol. 94 (E-Suppl. 1): 3. (10%).

*Krehling, J.T., J.B. Hess, *L.B. MacKay, *A.N. Fraizer, * K.G. English and **K.S. Macklin**. 2015. Role of direct-fed sulfur to broilers and litter ammonia levels. Abstract 188. Poultry Science vol. 94 (E-Suppl. 1): 66. (20%).

*Fraizer, A.N., *J.T. Krehling, *L.B. MacKay, *K.G. English and **K.S. Macklin**. 2015. In vitro inhibition of *Clostridium perfringens* by seven strains of *Bacillus subtilis*. Abstract 317P. Poultry Science vol. 94 (E-Suppl. 1): 108. (20%).

*MacKay, L.B., *J.T. Krehling, W.A. Dozier III, *A.N. Fraizer, *K.G. English and **K.S. Macklin**. 2015. Effects of intermittent dried distillers grains with solubles inclusion on broilers challenged with a necrotic enteritis model. Abstract 318P. Poultry Science vol. 94 (E-Suppl. 1): 109. (20%).

*McCafferty, K., C. Wyatt, **K. Macklin**, and W. Dozier III. 2015. Effects of intermittent wheat inclusion on broiler performance, gastrointestinal tract health, and footpad dermatitis during a 46 d production period. Abstract M131. Poultry Science vol. 94 (E-Suppl. 1): 228. (10%).

*MacKay, L.B., *J.T. Krehling, W.A. Dozier and **K.S. Macklin**. 2015. Effects of feeding dried distillers dried grains with solubles to broilers challenged with *C. perfringens* and *Eimeria* on necrotic enteritis. Abstract M57. Poultry Science vol. 94 (E-Suppl. 1): 206. (20%).

*English, K.G., **K.S. Macklin**, M.Z. Singh, *L.B. MacKay, *J.T. Krehling, and A. Segrest. 2015. Bacterial prevalence on broilers farms from an integrator in Alabama. Abstract M53. Poultry Science vol. 94 (E-Suppl. 1): 205. (20%).

Macklin, K.S., J.B. Hess, *J.T. Krehling, *L.B. MacKay, *K.G. English, and *A.N. Fraizer. 2015. The effect of sulfur inclusion in broiler diets on ammonia levels in poultry litter. Abstract T187. Poultry Science vol. 94 (E-Suppl. 1): 3. (60%).

*Dormitorio, T.V., J.J. Giambrone, and **K.S. Macklin**. 2014. Detection, isolation and characterization of infectious laryngotracheitis virus from a broiler farm after a respiratory disease outbreak. Abstract presented at the 2014 meeting of the American Association of Avian Pathologist. Denver, CO, July 26-29, 2014 (25%).

Macklin, K.S., J.B. Hess, S.F. Bilgili, *J.T. Krehling and T. Cheng. 2014. Influence of complexed mineral supplementation on intestinal *Escherichia coli* and *Salmonella*. Abstract 300P. Poultry Science vol. 93 (E-Suppl. 1): 101. (55%).

*English, K.G., M. Singh and **K.S. Macklin**. 2014. Survey of the biosecurity and management practices on broiler farms. Abstract 1. Poultry Science vol. 93 (E-Suppl. 1): 1. (55%).

Hess, J.B., **K.S. Macklin**, J.T. Krehling and O. Gutierrez. 2014. Influence of 25-hydroxy vitamin D3 sources on growth and bone development of young broilers. Abstract 467P. Poultry Science vol. 93 (E-Suppl. 1): 157. (35%).

*Krehling, J.T., *L.B. Olivia, *K. English, *A.N. Frazier and **K.S. Macklin**. 2014. Evaluation of litter from three broiler complexes for coccidia resistance. Abstract 119. Poultry Science vol. 93 (E-Suppl. 1): 42. (45%).

*Olivia, L.B., *J.T. Krehling, W.A. Dozier III, *K. English, *A. Frazier and **K.S. Macklin**. 2014. Effects of feeding dried distillers grains with solubles (DDGS) on performance and necrotic enteritis. Abstract 103. Poultry Science vol. 93 (E-Suppl. 1): 36. (30%).

*Fraizer, A.N., *J.T. Krehling, *L. Olivia, *K. English and **K.S. Macklin**. 2014. Effect of two *Bacillus subtilis* strains on production and *Salmonella* colonization in male broilers. Abstract 94. Poultry Science vol. 93 (E-Suppl. 1): 33. (30%).

Hess, J.B., **K.S. Macklin** and J.P. Blake. 2014. House environmental impact of wood pellet burning stoves. Abstract M71(2). Poultry Science vol. 93 (E-Suppl. 1): 212. (20%).

Macklin, K.S., *J.T. Krehling, *M.A. Bailey, *A.N. Frazier and E.T. Moran. 2014. Necrotic enteritis development when using a *Clostridium perfringens* isolate containing the toxin genes TpeL and NetB. Abstract T91. Poultry Science vol. 93 (E-Suppl. 1): 218. (60%).

Conner, D.E., M. Singh, **K.S. Macklin**, J.B. Hess. 2013. Impact of processing equipment and facility materials on establishment and persistence of foodborne pathogens. Abstract 68. World Poultry Science Journal, suppl. 1, vol 69: 51. (20%).

*Bailey, M.A., **K.S. Macklin** and *J.T. Krehling. 2013. Use of PCR for the detection of the *netB* gene in strains of *Clostridium perfringens* isolated from cases of avian necrotic enteritis in Alabama. Abstract P274. Poultry Science, vol 92 (E-Suppl. 1): 98. (55%).

Macklin, K.S., *M.A. Bailey, *J.T. Krehling, J.B. Hess and J.D. French. 2013. Effects of a commercial anticoccidial on broilers raised on litter seeded with potentially resistant oocysts. Abstract P273. Poultry Science, vol 92 (E-Suppl. 1): 97. (75%).

*Williams, Z.T., *M.A. Bailey and **K.S. Macklin**. 2013. Using sulfuric acid and aluminum sulfate to control litter ammonia emissions and *Salmonella* concentration. Abstract 211. Poultry Science, vol 92 (E-Suppl. 1): 75. (35%)

*Dormitorio, T.V., J.J. Giambrone, and **K.S. Macklin**. 2013. Isolation and characterization of infectious laryngotracheitis virus along with sanitation and vaccination helped prevent a recurrence of the disease outbreak. Abstract 202. Poultry Science, vol 92 (E-Suppl. 1): 70. (25%)

*Stough, J., *Z. Williams, **K.S. Macklin** and M.R. Liles. 2012. Selection of *Bacillus* strains for *Salmonella* reduction within a poultry house environment. Abstract presented at: Southeastern Regional Branch Meeting of the American Society of Microbiology (SEB-ASM), Athens, GA. Oct. 25-27, 2012. (15%)

*Gholap, D.B., **K.S. Macklin**, J.P. Blake and S.F. Bilgili. 2012. Comparative study of poultry litter treatment (PLT) in maintaining air and litter quality with microbiological fluctuations over three consecutive broiler flocks. Abstract 90. Poultry Science, suppl. 1 ed., vol 91: 32. (30%)

*Gholap, D.B., **K.S. Macklin**, J.P. Blake and S.F. Bilgili. 2012. Evaluation of poultry litter treatments in reducing ammonia emission rates, pH and microbial load in commercial broiler houses over three consecutive broiler flocks. Abstract 155. Poultry Science, suppl. 1 ed., vol 91: 55. (30%)

*Williams, Z., *J. Stough, M. Liles and **K.S. Macklin**. 2012. Reducing *Salmonella* and broiler litter ammonia emissions using *Bacillus subtilis*. Abstract 156. Poultry Science, suppl. 1 ed., vol 91: 55. (40%)

*Bailey, M.A., **K.S. Macklin**, M.A. Liles and J.T. Krehling. 2012. Developing a multiplex PCR for the detection of *Clostridium perfringens* toxin genes *netB*,

TpeL, *cpa*, *cpb*, *etx*, and *cpe*. Abstract 159. Poultry Science, suppl. 1 ed., vol 91: 56. (25%)

*Dormitorio, T.V., J.J. Giambrone and **K.S. Macklin**. Detection of infectious laryngotracheitis virus from poultry house environments by real-time PCR. Abstract 212. Poultry Science, suppl. 1 ed., vol 91: 74. (30%)

*Gholap, D.B., S.F. Bilgili, J.B. Hess, **K.S. Macklin**, J.P. Blake, J.L. Sibley and G.B. Fain. 2012. Alternative bedding sources for rearing broiler chickens. Abstract P287. Poultry Science, suppl. 1 ed., vol 91: 98. (20%)

*Gholap, D.B., **K.S. Macklin**, J.P. Blake and S.F. Bilgili. 2012. Comparison of ammonia emission rates, litter quality and microbiological fluctuations in commercial broiler facilities using a biological and a chemical litter treatment for two consecutive broiler flocks. Abstract M34. Poultry Science, suppl. 1 ed., vol 91: 192. (30%)

*Williams, Z. and **K. Macklin**. 2012. Concentration of total aerobic and anaerobic bacteria in broiler litter, at varying locations within the house, conducted over a one year time. Abstract M38. Poultry Science, suppl. 1 ed., vol 91: 193. (45%)

Macklin, K.S., W.A. Dozier III and L.N. Speegle. 2012. Influence on necrotic enteritis (NE) development of distillers dried grains with solubles (DDGS). Abstract M40. Poultry Science, suppl. 1 ed., vol 91: 194. (70%)

Blake, J.P., **K.S. Macklin** and *D.B. Gholap. 2012. Simple test kit for measuring CO₂ and NH₃ emissions from broiler litter. Abstract M73. Poultry Science, suppl. 1 ed., vol 91: 204. (30%)

*Bailey, M.A., **K.S. Macklin**, M.A. Liles, J.T. Krehling and *Z.T. Williams. 2012. The development of a multiplex PCR to identify *plc*, *cpb*, *iA*, *etx*, *cpe*, *tpeL* and *netB* toxin encoding genes in *Clostridium perfringens*. Abstract P259. Poultry Science, suppl. 1 ed., vol 91: 255. (25%)

*Bailey, M.A., *Z.T. Williams, J.B. Hess, **K.S. Macklin**. 2011. The effects of Gallipro Max on broiler live performance, footpad lesions and litter quality. Poultry Science, suppl. 1 ed., vol. 90: 54. (40%)

*Williams, Z., **K. Macklin**. 2011. Concentrations of different types of bacteria in poultry litter, at varying depths and locations within commercial broiler houses. Poultry Science, suppl.1 ed., vol. 90: 209. (40%)

Macklin, K., L.N. Rose, W.A. Dozier III. 2011. Distillers dried grains with solubles (DDGS) and its effects on necrotic enteritis development in broiler chickens. Poultry Science, suppl.1 ed., 90: 56. (60%)

*Gholap, D., **K. Macklin**, J. Blake, S. Bilgili. 2011. Evaluation of air and litter quality with microbiological fluctuations in commercial broiler facilities using a biological and a chemical litter treatment. Poultry Science, suppl.1 ed., vol. 90: 54. (40%)

Giambrone, J., *S.-C. Ou, **K. Macklin**. 2011. Management procedures used to control ILT on commercial broiler farms. Poultry Science, suppl.1 ed., 90: 29. (40%)

Macklin, K.S., *Z.T. Williams, *M.A. Bailey, J.T. Krehling and J.P. Blake. 2011. The effect of sodium bisulfate on reducing Salmonella in poultry litter. Abstract M82, presented at International Poultry Science Forum, Atlanta, GA, 24-25 January 2011. (70%).

*Williams Z. and **K. Macklin**. 2011. Concentrations of different types of bacteria in poultry litter, at varying depths and locations within a commercial broiler house. Abstract M12, presented at International Poultry Science Forum, Atlanta, GA, 24-25 January 2011. (40%).

*Landry, M.M., D.M. Carpenter, **K.S. Macklin**, G.S. Weaver, W.D. Berry and R.A. Norton. 2011. Examination of avian influenza research using metadata analysis and textual analytics. Abstract 171P, presented at International Poultry Science Forum, Atlanta, GA, 24-25 January 2011. (15%).

*Stough, J., N. Capps, **K. Macklin**, M. Singh and M.R. Liles. 2010. Activity of 25 *Bacillus* strains against *Salmonella* strains. Abstract CVM11, presented at the 96th Annual Meeting of the Southeastern Branch of the American Society of Microbiologists, Montgomery, AL, 4-6 November 2010. (10%).

*Shaw, A.L., J.P. Blake, and **K.S. Macklin**. 2010. Assessment of phytase in broilers undergoing a coccidiosis challenge. Abstract 335, presented at Poultry Science Association, Denver CO, July 11-15, 2010. Poult. Sci. 89;E-Suppl. 1. (35%).

*Thanissery, R., J.L. McReynolds, D.E. Conner, **K.S. Macklin**, P.A. Curtis, and Y.O. Fasina. 2010. Effect of NuPro supplementation on intestinal *Clostridium perfringens* levels in broiler chickens. Abstract 266, presented at Poultry Science Association, Denver CO, July 11-15, 2010. Poult. Sci. 89;E-Suppl. 1. (10%).

Macklin, K.S., J.T. Krehling, *Z.T. Williams, and *M.A. Bailey. 2010. The ability of essential oils to inhibit *Salmonella* growth. Abstract W334, presented at Poultry Science Association, Denver CO, July 11-15, 2010. Poult. Sci. 89;E-Suppl. 1. (70%).

Macklin, K.S. and J.T. Krehling. 2010. The effect of essential oils in inhibiting growth of *Clostridium perfringens*. Abstract P169 in International Poultry Science Forum, Atlanta, GA, 25-26 January 2010. (80%).

*Williams, Z., A. Segrest, *M. Bailey, J. Krehling and **K. Macklin**. 2010. Concentrations of different types of pathogenic bacteria in varying levels of used broiler litter: Top, middle and bottom. Abstract P153 in International Poultry Science Forum, Atlanta, GA, 25-26 January 2010. (30%).

*Thanissery, R., J.L. McReynolds, D.E. Conner, **K.S. Macklin**, P.A. Curtis, and Y.O. Fasina. 2010. Evaluation of the efficacy of NuPro yeast extracts in reducing intestinal *Clostridium perfringens* levels in broiler chickens. Abstract M65 in International Poultry Science Forum, Atlanta, GA, 25-26 January 2010. (10%).

Hess, J.B., J.P. Blake and **K.S. Macklin**. 2009. Recent Alabama broiler usage changes. Abstract presented at: Alabama Water Resources Conference, Perdido Beach Resort, Orange Beach, AL, September 9-11 2009. (20%)

*Thanissery, R., **K.S. Macklin**, W. Zhai, J.P. Blake, Y.O. Fasina. 2009. Effect of dietary vitamin U supplementation on the growth performance of young broiler chickens. Abstract 54, presented at: Poultry Science Association, Raleigh, NC, July 20-23 2009. (25%)

Macklin, K.S. and J.B. Hess. 2009. The influence of two essential oil blends on live performance after challenge with *Eimeria* spp. and *Cl. perfringens*. Abstract 77, presented at: Poultry Science Association, Raleigh, NC, July 20-23 2009. (95%)

Blake, J.P., J.B. Hess and **K.S. Macklin**. 2009. Litter nutrient estimates for broiler litter. Abstract 157, presented at: Poultry Science Association, Raleigh, NC, July 20-23 2009. (15%)

Blake, J.P., J.B. Hess and **K.S. Macklin**. 2009. Trace element accumulation during litter treatment usage for broiler chickens. Abstract 160, presented at: Poultry Science Association, Raleigh, NC, July 20-23 2009. (15%)

*Paiva, D., **K. Macklin**, S. Price, D. Conner, J. Hess, and M. Singh. 2009. Antimicrobial activity of concrete sealant against *Clostridium perfringens* and *Bacillus subtilis*. Abstract 436P, presented at: Poultry Science Association, Raleigh, NC, July 20-23 2009. (20%)

*Paiva, D., M. Singh, and **K.S. Macklin**. 2009. Efficacy of BioSealed for concrete against multiple strains of *Listeria* spp. and their biofilms on concrete surfaces. IAFP 2009, July 12-15, 2009 in Grapevine, Texas. (15%)

Krehling, J.T. and **K.S. Macklin**. 2009. Comparison of commercially available media in recovering *Clostridium perfringens* from poultry litter. Abstract P169 in International Poultry Science Forum, Atlanta, GA, 26-27 January 2009. (40%).

*Mathis D.L., M.D. Lee, J.J. Maurer, J.L. Wilson, R.K. Bramwell, **K.S. Macklin**, M.J. Wineland, R.D. Berghaus. 2009. Evaluation of management practices and Salmonella prevalence on broiler breeder farms in the Southeastern United States. Abstract P148 in International Poultry Science Forum, Atlanta, GA, 26-27 January 2009. (15%).

*Ou, S.C., J.J. Giambrone and **K.S. Macklin**. 2009. Detection of infectious laryngotracheitis virus in the water lines with real-time PCR and viral isolation. Abstract T135 in International Poultry Science Forum, Atlanta, GA, 26-27 January 2009. (30%).

*Dormitorio, T.V., J.J. Giambrone and **K.S. Macklin**. 2009. Survival of avian influenza virus in eggs during litter composting. Abstract T131 in International Poultry Science Forum, Atlanta, GA, 26-27 January 2009. (30%).

Macklin, K.S. and J.T. Krehling. 2009. The effect of a soil fumigant on reducing bacterial numbers in broiler litter. Abstract T98 in International Poultry Science Forum, Atlanta, GA, 26-27 January 2009. (80%).

*Paiva, D.M., **K. Macklin**, S. Price, D. Conner, J. Hess, and M. Singh. 2009. Efficacy of Biosealed for Concrete™ against multiple strains of *Salmonella* spp. and their biofilms on concrete surfaces. Abstract M52 in International Poultry Science Forum, Atlanta, GA, 26-27 January 2009. (20%).

*Mathis D.L., M.D. Lee, J.J. Maurer, J.L. Wilson, R.K. Bramwell, **K.S. Macklin**, M.J. Wineland, R.D. Berghaus. 2008. Evaluation of management practices and Salmonella prevalence on broiler breeder farms in the Southeastern United States. Conference of Research Workers in Animal Disease, 89th Annual Meeting, Chicago, IL, 7-9 December 2008. (15%)

*Shaw, A.L., **K. S. Macklin**, and J.P. Blake. 2008. Comparison of vitamin U, Bio-Mos and BMD on *Salmonella* control and intestinal measures. Poultry Science 87(S1):55. (45%).

*Saenmahayak, B., **K. S. Macklin**, S. F. Bilgili, J. B. Hess, J.P. Blake, and J. L. Sibley. 2008. Microbial profile of bedding sources for rearing broiler chickens. Poultry Science 87(S1):102. (45%).

Macklin, K.S., J.P. Blake and J.B. Hess. 2008. The effect of various litter treatments on bacterial levels for two consecutive growouts. Poultry Science 87(S1):101. (85%).

Macklin, K.S., J.P. Blake, J.B. Hess and T.A. McCaskey. 2008. Bacterial levels associated with lime as a litter amendment. Poultry Science 87(S1):168. (85%).

*Ou, S.C., J.J. Giambone, and **K.S. Macklin**. 2008. Detection of infectious laryngotracheitis virus from the darkling beetle and its larval stage (lesser mealworm) by real-time PCR. Poultry Science 87(S1):165. (35%).

Cookson, K.C. and **K.S. Macklin**. 2008. Efficacy of a live *E. coli* vaccine given at day-of-age, with or without previous administration of antibiotics. Poultry Science 87(S1):148. (55%).

Macklin, K.S., J.P. Blake and J.B. Hess. 2008. Litter bacterial levels associated with liquid aluminum sulfate (A7) litter treatment. Poultry Science 87(S1):25. (85%).

Blake, J.P., J.B. Hess, **K.S. Macklin** and C.A. Wilson. 2008 Evaluation of acidifying litter treatments for broiler chickens. Poultry Science 87(S1):25. (15%).

Blake, J.P., J.B. Hess, **K.S. Macklin**, C.A. Wilson, *R.N. Lehman and *F. Kocakaya. 2008. Evaluation of a liquid aluminum sulfate litter treatment (A-7) at three levels as a litter treatment for broiler chickens. Poultry Science 87(S1):24. (15%).

Blake, J.P., J.B. Hess, **K.S. Macklin** and C.A. Wilson. 2008. Evaluation of sulfuric acid application at three levels as a litter treatment for broiler chickens. Poultry Science 87(S1):24. (15%).

Macklin, K.S. and J.B. Hess. 2008. Influence of narasin on live performance and yield during withdrawal period. Poultry Science 87(S1):153. (65%).

Bilgili, S.F., J. B. Hess, J. P. Blake, **K. S. Macklin**, and J. L. Sibley. 2008. Alternative bedding sources for rearing broiler chickens. Poultry Science 87(S1):159. (15%).

Macklin, K.S. and B.R. Bock. 2008. The cost of winter cleanout. Poultry Science 87(S1):159. (80%).

Macklin, K.S., J.P. Blake, J.B. Hess and R.A. Norton. 2007. Litter Bacterial levels associated with Poultry Guard™. Poultry Science 86(S1):592. (80%)

Macklin, K.S., J.B. Hess and D.E. Conner. 2007. Preventing *Salmonella* colonization in cement using Bio Deep Seal. Poultry Science 86(S1):29. (80%)

*James, C.R., *L.M. Stevenson, S.S. Oates, S. Martin, **K.S. Macklin**, R.A. Norton and W.D. Berry. 2007. Detection of bacteria in the vas deferens and testes of broiler breeder roasters. Poultry Science 86(S1):130. (15%)

Bano, L. **K.S. Macklin**, S.W. Martin, *R.S. Miller, R.A. Norton, O.A. Oyarzabal and S.F. Bilgili. 2007. Development of a polymerase chain reaction assay for rapid identification of the causative agent of ulcerative enteritis. Poultry Science 86(S1):248. (25%)

Blake, J.P., J.B. Hess, **K.S. Macklin** and C.A. Wilson. 2007. Evaluation of Poultry Guard™ litter treatment at three application rates for broiler chickens. Poultry Science 86(S1):591. (25%)

Blake, J.P., J.B. Hess, **K.S. Macklin** and C.A. Wilson. 2007. Evaluation of hydrated lime as a litter treatment at three application rates for broiler chickens. Poultry Science 86(S1):591-592. (25%)

*Shaw, A.L., **K.S. Macklin** and J.P. Blake. 2007. Evaluation of vitamin U on Salmonella typhimurium in broilers. Abstracts 96th Annual Meeting Poultry Science Association. Poultry Science 86(S1):128. (50%)

Macklin, K.S., J.J. Giambrone, K. Cookson and H. Toro. 2007. Effects of chicken anemia virus (CAV), infectious bursal disease (IBDV) and reovirus on cellulitis development in chickens. Poultry Science 86(7):1563. (55%)

*Shaw, A.L., **K.S. Macklin**, and J.P. Blake. 2007. Effects of vitamin U on performance and intestinal tract integrity. Poultry Science 86(7):1537. (30%)

Macklin, K.S., J.P. Blake, J.B. Hess and R.A. Norton. 2007. Bacterial levels associated with poultry litter treatment (PLT) and aluminum sulfate (Alum). Poultry Science 86(7):1582. (75%)

Giambrone, J. *S. Fagbohun and **K. Macklin**. 2007. A natural challenge model for ILTV laboratory studies. Poultry Science 86(7):1563. (25%)

Blake, J.P., J.B. Hess, **K.S. Macklin** and C.A. Wilson. 2007. Evaluation of poultry litter treatment (PLT) at three application rates for broiler chickens. Poultry Science 86(7):1569-1570. (25%)

Blake, J.P., J.B. Hess, **K.S. Macklin** and C.A. Wilson. 2007. Evaluation of aluminum sulfate (Alum) at three application rates for broiler chickens. Poultry Science 86(7):1570. (25%)

*Fagbohun, O.A, J.J. Giambrone, T.V. Dormitorio and **K. Macklin**. 2007. Nested PCR to detect infectious laryngotracheitis virus (ILTV). Poultry Science 86(7):1598. (20%)

Blake, J.P., J.B. Hess, **K.S. Macklin**, S.F. Bilgili, A.E. Sefton, and A. Kocher. 2006. Mannon oligosaccharide (Bio-Mos) supplementation of wheat-based diets

for broilers. Abstract presented at European Poultry Conference, Verona, Italy. Sept. 10-14. (25%)

*Shaw, A.L., **K.S. Macklin**, J.P. Blake, *W.V. Narvaez-Solarte, and *P.K. Gunawardana. 2006. Does Vitamin U have potential to improve feed efficiency or strengthen the intestinal tract of broilers? Abstracts 95th Annual Meeting Poultry Science Association. Poultry Science 85(S1): 27-28. (30%)

Macklin, K.S., J.P. Blake, *B.A. McCrea, R.A. Norton, J.B. Hess and S.F. Bilgili. 2006. Mannan oligosaccharides effects on litter bacteria levels. Abstracts 95th Annual Meeting Poultry Science Association. Poultry Science 85(S1): 117. (75%)

Macklin, K.S., O.A. Oyarzabal, J.B Hess, S.F. Bilgili and R.A. Norton. 2006. In house composting and its effect on three common foodborne pathogens. Abstracts 95th Annual Meeting Poultry Science Association. Poultry Science 85(S1): 73. (85%)

*Stevenson, L.M., *M.A. Leslie, *B.A. McCrea, **K.S. Macklin**, L.J. Bauermeister and J.B. Hess. 2006 Feed conversion, growth rate, and carcass yield in free range heritage vs commercial turkey varieties. Abstracts 95th Annual Meeting Poultry Science Association. Poultry Science 85(S1): 24-25. (15%)

*McCrea, B.A., *M.A. Leslie, *L.M. Stevenson, **K.S. Macklin**, *L.J. Bauermeister and J.B. Hess. 2006. Foot pad lesions, pasture condition, and bacterial pathogens in free range heritage vs. commercial turkey varieties. Abstracts 95th Annual Meeting Poultry Science Association. Poultry Science 85(S1): 24. (15%)

Macklin, K.S., J.P. Blake, *B.A. McCrea, R.A. Norton, J.B. Hess and S.F. Bilgili. 2006. Bacterial levels found in litter associated with broilers fed mannan oligosaccharides. Abstract from the International Poultry Science Forum, Jan. 23-24, 2006. Poultry Science 85(S1): 208. (75%)

*McCrea, B.A., **K.S. Macklin** and J.P. Blake. 2006. Recovery of *Clostridium perfringens* from poultry dump coops after different disinfectant regimens. Abstract from the International Poultry Science Forum, Jan. 23-24, 2006. Poultry Science 85(S1): 197. (40%)

Hess, J.B., **K.S. Macklin**, and *B.A. McCrea. 2006. Litter beetle counts in broiler houses treated with several insecticides. Abstract from the International Poultry Science Forum, Jan. 23-24, 2006. Poultry Science 85(S1): 185-186. (40%)

Macklin, K.S., J.P. Blake, *B.A. McCrea, R.A. Norton, J.B. Hess, S.F. Bilgili, T. Sefton, and A. Kocher. 2005. Litter bacterial levels associated with broilers fed

mannan oligosaccharides. Abstracts 94th Annual Meeting Poultry Science Association. Poultry Science 84(S1): 115. (70%)

Blake, J.P., J.B. Hess, **K.S. Macklin**, S.F. Bilgili, T. Sefton, and A. Kocher. 2005. Broiler live performance on wheat-based feeds supplemented with mannan oligosaccharides. Abstracts 94th Annual Meeting Poultry Science Association. Poultry Science 84(S1): M9. (20%)

*McCrea, B.A., **K.S. Macklin**, R.A. Norton, J.B. Hess, and S.F. Bilgili. 2005. Recovery and distribution of *Escherichia coli* from poultry house surgical shoe covers, shallow litter, and deep litter samples. Abstracts 94th Annual Meeting Poultry Science Association. Poultry Science 84(S1): M47. (30%)

*McCrea, B.A., **K.S. Macklin**, R.A. Norton, J.B. Hess, and S.F. Bilgili. 2005. Recovery of *Campylobacter jejuni* from broiler house samples during four consecutive flocks: Dendogram. Abstracts 94th Annual Meeting Poultry Science Association. Poultry Science 84(S1): M48. (25%)

*McCrea, B.A., **K.S. Macklin**, R.A. Norton, J.B. Hess, and S.F. Bilgili. 2005. Recovery of *Campylobacter jejuni* from broiler house samples during four consecutive flocks: Isolate distribution. Abstracts 94th Annual Meeting Poultry Science Association. Poultry Science 84(S1): 73. (25%)

*McCrea, B.A., **K.S. Macklin**, O.A. Oyarzabal, R.A. Norton, J.B. Hess, and S.F. Bilgili. 2005. Recovery of *Clostridium perfringens* from poultry transport crates after different holding times and disinfectant regimens. Abstracts 26th Annual Meeting of the Southern Poultry Science Society. Poultry Science 84(S1): 125 (35%)

Guertal, E.A., J.B. Hess, J.P. Blake, S.F. Bilgili, R.A. Norton, and **K.S. Macklin**. 2004. Poultry litter sand used as a source of putting green construction. ASA/CSSA/SSSA Abstracts. Oct 31-Nov. 4. Seattle, WA. (15%)

Macklin, K.S., *R.S. Miller, and O.A. Oyarzabal. 2004. Comparison of Six Plate Media or Direct Enumeration of *Campylobacter* spp. from Carcasses Rinses. Abstracts 93rd Annual Meeting Poultry Science Association. Poultry Science 83(S1): 318. (60%)

*McCrea, B.A., R.A. Norton, J.B. Hess, **K.S. Macklin**, and S.F. Bilgili. 2004. A longitudinal study of salmonella serotypes from day of hatch through processing using an automated Ribotyping System. Abstracts 22nd Meeting of the World Poultry Science Association. 8-13, June, Istanbul, Turkey. (20%)

Bilgili, S.F., J.B. Hess, J.P. Blake, M.K. Eckman, R.A. Norton, **K.S. Macklin**, and E.A. Guertal. 2004. Rearing broilers on sand: a result demonstration project.

Abstracts 22nd Meeting of the World Poultry Science Association. 8-13, June, Istanbul, Turkey. (15%)

Macklin, K.S., *J.B. Mitchell, and R.A. Norton. 2004. Using a Qualicon RiboPrinter to characterize disease causing *Escherichia coli*. Abstracts 25th Annual Meeting of the Southern Poultry Science Society. 26-27, Jan. Atlanta, GA. (65%)

*McCrea, B.A., S.F. Bilgili, R.A. Norton, **K.S. Macklin**, and J.B. Hess. 2004. Recovery of *E. coli* and *Salmonella* suspects from poultry house drag swabs and surgical shoe covers. Abstracts 25th Annual Meeting of the Southern Poultry Science Society. 26-27, Jan. Atlanta, GA. (20%)

Macklin, K.S., J.B. Hess, S.F. Bilgili, M.K. Eckman, J.P. Blake and R.A. Norton. 2003. Addition of water to composted pine shavings and sand litter and effects on bacterial counts. Abstracts 92nd Annual Meeting Poultry Science Association. Poultry Science 82(S1): 238. (75%)

Macklin, K.S., *M.A. Davis, J.B. Hess, S.F. Bilgili, M.K. Eckman, J.P. Blake and R.A. Norton. 2003. Effects of composting pine shaving and sand litter on bacterial counts. Abstracts 44nd Annual Meeting Southern Conference on Avian Disease. Poultry Science 82(S1): S149. (80%)

Macklin, K.S., R.A. Norton, and S.J. Ewald. 2002. MHC and family effects on antibody titer before and after challenge with cellulitis origin *Escherichia coli*. Abstracts 91st Annual Meeting Poultry Science Association. Poultry Science 81(S1): 444. (90%)

Macklin, K.S., R.A. Norton, J.B. Hess, S.F. Bilgili, M.K. Eckman, J.P. Blake, *C. Wang, *M. Noble, and J.T. Krehling. 2002. Bacterial levels associated with pine shaving and sand when used as poultry litter. Abstracts 43rd Annual Meeting Southern Conference on Avian Disease. Poultry Science 81 (S1): S102. (75%)

Macklin, K.S., R.A. Norton, and S.J. Ewald. 2001. MHC and family effects on lymphocyte proliferation in MHC defined broiler chickens. (Abstr.) Abstracts 90th Annual Meeting Poultry Science Association. Poultry Science 80 (S1): 345. (90%)

Norton R.A., J.B. Hess, J.P. Blake, and **K.S. Macklin**. 2001. Microbiological safety of dehydrated poultry meal products. Abstracts 42nd Annual Meeting Southern Conference on Avian Disease. International Poultry Scientific Forum Abstract, 186. Atlanta, GA. (20%)

Macklin, K.S., R.A. Norton, and S.J. Ewald. 2000. The effect of different *E. coli* isolates on inducing avian cellulitis lesions in MHC defined broiler chickens.

Abstracts 89th Annual Meeting Poultry Science Association. Poultry Science 79(S1): 156. (90%)

Macklin, K.S., R.A. Norton, and S.J. Ewald. 2000. The effects of the major histocompatibility complex from two divergent chicken lines on reducing the incidence of avian cellulitis. Abstracts 21st Annual Meeting of the Southern Poultry Science Society. Poultry Science 79(S1): S96. (90%)

*Downs, K.M, R.A. Norton, **K.S. Macklin**, and J.B. Hess. 2000. The influence of supplemental vitamin E and zinc-amino acid complex on avian cellulitis. Abstracts 21st Annual Meeting of the Southern Poultry Science Society. Poultry Science 79(S1): S111. (25%)

*Downs, K.M., **K.S. Macklin**, R.A. Norton, and J.B. Hess. 1999. The effectiveness of dietary vitamin E and organic zinc complexes for reducing the incidences of cellulitis. Abstracts 40th Annual Meeting Southern Conference on Avian Diseases. Poultry Science 78(S1): S139. (45%)

Macklin, K.S., R.A. Norton, and J.P. Blake. 1999. Dead bird digesters in Alabama. Program Alliance for environmental stewardship: A comprehensive approach. 27-29 September, St. Louis, Missouri, p. 56. (75%)

Macklin, K.S., R.A. Norton, and *B.L. McMurtrey. 1998. The use of an improved *in vivo* model for avian cellulitis in broiler chickens for the assessment of the significance of scratches in avian cellulitis. Abstracts 87th Annual Meeting Poultry Science Association. Poultry Science 77(S1): 56. (80%)

Norton, R.A., **K.S. Macklin**, *B.L. McMurtrey, and S.F. Bilgili. 1998. Cellulitis- a fresh look at the problem. Abstracts 47th Annual Western Poultry Disease Conference. 8-10 March, Sacramento, California, pp. 31-32. (40%)

Macklin, K.S., R.A. Norton, and J.P. Blake. 1998. Current status of dead bird digesters in Alabama. Abstracts 19th Annual Meeting of the Southern Poultry Science Society. Poultry Science 77(S1): S57. (75%)

*McMurtrey, B.L., R.A. Norton, **K.S. Macklin**, and S.F. Bilgili. 1997. The association of various isolates of *Escherichia coli* with cellulitis in poultry. Abstracts 86th Annual Meeting of the Poultry Science Association. Poultry Science 76(S1): 262. (30%)

Macklin, K.S., R.A. Norton, and J.P. Blake. 1997. Preliminary results of long term monitoring of pathogenic bacteria recovery from experimental bird digesters in the state of Alabama. Abstracts 38th Annual Meeting of the Southern Conference on Avian Diseases. Poultry Science, 76 (S1): S139. (75%)

*McMurtrey, B.L., R.A. Norton, **K.S. Macklin**, and S.F. Bilgili. 1997. Investigations into the role of *Escherichia coli* in yolksac and cellulitis infections. Abstracts 38th Annual Meeting of the Southern Conference on Avian Diseases. Poultry Science, 76 (S1): S171. (30%)

Macklin, K.S., and W.E. Briles. 1995. Graft-vs-host splenomegaly identifies B-F/B-G segments in MHC recombinants. Abstracts 84th Annual Meeting of the Poultry Science Association. Poultry Science, 74(S1): 266. (90%)

Macklin, K.S., R.R. Dively, E.L. Erkert, and W.E. Briles. 1995. Characterization of the chicken C blood group system proteins. Abstracts 84th Annual Meeting of the Poultry Science Association. Poultry Science, 74 (S1): 479. (75%)

Briles, W.E., R.W. Briles, R.E. Taffs, **K.S. Macklin**, and S.T. Toth. 1994. Families of sequential recombinants in the chicken B complex. Abstracts 24th Meeting of the International Society of Animal Genetics, C03. Des Moines, IA.. (15%)

c. Lectures at Professional Meetings – No Published Abstracts (*Student contribution)

*Chadwick, E.V., J.T. Krehling, L.B. Olivia, and **K.S. Macklin**. 2016. Continuous exposure of *Salmonella* Enteritidis or Heidelberg in broiler chicken feed. College of Agriculture Graduate Student Symposium, Auburn, AL., Oct. 27, 2016. (20%).

Macklin, K.S., *E.V. Chadwick, J.T. Krehling, L.B. Olivia, and *B.C. Schrader. 2016. A comparison of *Salmonella* Enteritidis colonization in broiler chickens following and intratracheal and subcutaneous challenge. This is Research: Faculty Symposium. Auburn, AL. September 17, 2016. (60%).

Macklin, K.S. 2013. G. gallus, pathogens, virulence and pathogenicity workshop. CONDOR Scientific Computing and Consulting. Auburn, AL. August 12-13, 2013. (100%)

Macklin, K.S. and E.T. Moran. 2013. Possibilities of developing an on farm diagnostic tool for early detection of necrotic enteritis. Evonik. Auburn. AL. July 8, 2013. (80%)

Hess, J.B. **K.S. Macklin** and W.A. Dozier. 2012. Enteritis and feed quality. Advanced Poultry Feed Course. Casa Blanca, Morocco, May 2012. (15%)

Hess, J.B. **K.S. Macklin** and W.A. Dozier. 2012. Enteritis and feed quality. ASA Poultry Nutrition Meeting Advanced Poultry Feed Course, Algiers, Algeria, May 2012. (15%)

Macklin, K.S., J.B. Hess, J.P. Blake and S.F. Bilgili. 2009. What's new at Auburn University's Department of Poultry Science. Presented at Triennial Poultry Extension Specialists Workshop. Raleigh, NC, Nov. 9-11, 2009. (75%).

Macklin, K.S. 2003. Microbial dynamics of poultry litter. Presented at the 96th Annual Convention of the Alabama Veterinary Medical Association. Orange Beach, Alabama. (100%)

Macklin, K.S. and R.A. Norton. 2000. The effects of *Escherichia coli* of different origins on inducing avian cellulitis. Presented at 137th Annual Meeting of the American Veterinary Medical Association. Salt Lake City, Utah. (90%)

Norton, R.A., *T.D. Wilder, J.M. Barbaree, J.T. Krehling and **K.S. Macklin**. 2000. The role of various etiologic agents in the pathogenesis of gangrenous dermatitis in broiler chickens. Presented at 137th Annual Meeting of the American Veterinary Medical Association. Salt Lake City, Utah. (30%)

Macklin, K.S., R.A. Norton, and S.J. Ewald. 1999. The potential influence of broiler chicken major histocompatibility complex on the incidence of avian cellulitis. Presented at 136th Annual Meeting of the American Veterinary Medical Association. New Orleans, Louisiana. (90%)

Norton, R.A., **K.S. Macklin**, J.B. Hess, and *K.M. Downs. 1999. The use of dietary vitamin E, organic complexes, and other supplements in the prevention of avian cellulitis in broiler chickens. Presented at 136th Annual Meeting of the American Veterinary Medical Association. New Orleans, Louisiana. (30%)

Norton, R.A., S.F. Bilgili, and **K.S. Macklin**. 1998. Avian cellulitis in broiler chickens-a research update. Presented at 135th Annual Meeting of the American Veterinary Medical Association. Baltimore, Maryland. (20%)

Norton, R.A., S.F. Bilgili, *L.C. Johnson, *B.L. McMurtrey, **K.S. Macklin**, and F.J. Hoerr. 1996. *E. coli* and its association with avian cellulitis. Presented at 133rd Annual Meeting of the American Veterinary Medical Association. Louisville, Kentucky. (20%)

4. Exhibitions

N/A

5. Performances

N/A

6. Patents and inventions

N/A

7. Other Scholarly Contributions

a. Result Demonstrations, Field Studies and Contract Research Reports

Macklin, K.S. and J.B. Hess. 2017. Final Report: Peco Foods – Live performance and primary processing results. Peco Foods. 4 pages.

Macklin, K.S. 2017. Final Report: Effect of Biox on ammonia control and broiler production. Miller Chemical. 7 pages.

Macklin, K.S. 2017. Report: Effect of pelleting on bacterial numbers round two. Mighty Grow. 1 page.

Macklin, K.S. 2017. Station Report: Production systems and well-being: sustainability for tomorrow. USDA NE1442 annual report. 2 pages.

Macklin, K.S. 2017. Status Report: mite levels July 16. 16 pages

Macklin, K.S. 2017. Status Report: mite levels June 28 and 29. 2 pages

Macklin, K.S. 2017. Status Report: mite levels June 20. 2 pages

Macklin, K.S. 2017. Status Report: mite levels June 16. 2 pages

Macklin, K.S. 2017. Status Report: mite levels June 9. 2 pages

Macklin, K.S. 2017. Status Report: mite levels June 2. 2 pages

Macklin, K.S. 2017. Status Report: mite levels May 25. 2 pages

Macklin, K.S. 2017. Status Report: mite levels May 18. 2 pages

Macklin, K.S. 2017. Final Report: Egg disinfection using an aerosol in the incubator and hatcher. NebPur. 10 pages.

Macklin, K.S. 2017. Report: Effect of pelleting on bacterial numbers. Mighty Grow. 1 page.

Macklin, K.S. 2016. Final Report: Follow up to previous research into the use of bacteria to control ammonia in poultry litter. Miller Chemical. 4 pages.

Macklin, K.S. and S.F. Bilgili. 2016. Two Year Progress Report: Determining the dose, time and route of challenge and the eventual sites of colonization of two Salmonella serovars. US Poultry and Egg Association. 2 pages.

Macklin, K.S. and J.B. Hess. 2016. Final Report: Comparison of coccidiosis control and performance in broilers on different anticoccidial programs at summer time temperatures in the Southeastern United States. Elanco. 11 pages.

Macklin, K.S. 2016. Final Report: The use of bacteria to control ammonia in litter. Miller Chemical. 4 pages

Berry, W.D. and **K.S. Macklin.** 2016. Final Report: Phase I Study. Watertech. 4 pages.

Macklin, K.S. 2016. Station Report: Production systems and well-being: sustainability for tomorrow. USDA NE1442 annual report. 2 pages.

Macklin, K.S. 2016 Final Report: Effects of direct fed sulfur on ammonia reduction over three consecutive flocks starting with built up litter. S.F. Sulfur. 11 pages

Macklin, K.S. and S.F. Bilgili. 2016. Eighteen Month Progress Report: Determining the dose, time and route of challenge and the eventual sites of colonization of two Salmonella serovars. US Poultry and Egg Association. 2 pages.

Macklin, K.S. 2016. Final Report: Effects of different feed additives on the prevalence of necrotic enteritis when challenges with a NE model – Trial three repeat. Huvepharma. 5 pages.

Hess, J.B. and **K.S. Macklin.** 2016. Final Report: Wood pellet field evaluation. Lee Energy Solutions. 8 pages

Macklin, K.S. and S.F. Bilgili. 2015. Twelve Month Progress Report: Determining the dose, time and route of challenge and the eventual sites of colonization of two Salmonella serovars. US Poultry and Egg Association. 2 pages.

Macklin, K.S. 2015. Final Report: Detection, quantification and modification of bacterial populations associated with broiler poultry litter. USDA AD421 annual report. 5 pages.

Macklin, K.S. 2015. Final Report: The effect of probiotics and turmeric when used as feed additives to control necrotic enteritis. Huvepharma. 12 pages.

Macklin, K.S. 2015. Final Report: Testing the efficacy of probiotics in reducing enteritis in a novel necrotic enteritis model. Evonik. 15 pages.

Hess, J.B. and **K.S. Macklin.** 2015. Final Report: Influence of complexed trace minerals on Salmonella colonization in Leghorn hens. Zinpro Inc. 14 pages.

Hess, J.B. and **K.S. Macklin.** 2015. Final Report: Controlling broiler house environment to optimize bird health. Lee Energy. 11 pages.

Macklin, K.S. 2015. Station Report: Production systems and well-being: sustainability for tomorrow. USDA NE1442 annual report. 2 pages.

Macklin, K.S. and J.B. Hess. 2015. Final Report: The effect of direct feeding of sulfur to control litter ammonia in broiler chickens. S.F. Sulfur. 10 pages.

Macklin, K.S. and S.F. Bilgili. 2015. Sixth Month Progress Report: Determining the dose, time and route of challenge and the eventual sites of colonization of two Salmonella serovars. US Poultry and Egg Association. 2 pages.

Macklin, K.S. 2015. Final Report: Characterizing NE development in broiler chickens. Evonik. 8 pages.

Macklin, K.S. and W.A. Dozier III. 2014. Final Report: Role of distillers dried grans with solubles in necrotic enteritis. USPEA. 10 pages. (90%)

Liles, M., **K. Macklin,** M. Singh, J. Kloepper and J. Terhune. 2014. Final Report: Biological control of *Salmonella* and ammonia reduction in a poultry production system. OVPR. 12 pages. (40%)

Macklin, K.S. 2014. Progress Report: Detection, quantification and modification of bacterial populations associated with broiler poultry litter. USDA AD421 annual report. 3 pages. (100%)

Macklin, K.S. 2013. Final Report: AST of 3 commercial broiler complexes. Huvepharma, Inc. 5 pages. (100%)

Macklin, K.S. 2013. Progress Report: Role of distillers dried grans with solubles in necrotic enteritis. USPEA. 1 page. (100%)

Macklin, K.S. 2013. Final Report: Effects of *Eimeria maxima* oocysts inoculation levels on cecal lesions scores of broiler chickens medicated with Monensin, Nicarbazin, or Diclazuril. Huvepharma, Inc. 7 pages. (100%)

Macklin, K.S. and J.B. Hess. 2013. Final Report: Influence of vitamin D source in growth of young broilers. Huvepharma, Inc. 7 pages. (50%)

Hess, J.B., S.F. Bilgili and **K.S. Macklin**. 2013. Final Report: Influence of complexed mineral supplementation on bone growth and intestinal microflora attachment in young broilers during heat stress. Zinpro. 8 pages. (20%)

Macklin, K.S. 2013. Final Report: Evaluation of Poulvac E. coli efficacy in Broilers challenge with different levels of Avian Pathogenic *E. coli*. Pfizer. 12 pages. (100%)

Macklin, K.S. 2013. Final Report: Challenge study to determine protection level of birds vaccinated with Poulvac SE/ND/IB to a SE challenge in commercial layers late in lay. Pfizer. 4 pages. (100%)

Macklin, K.S. 2013. Progress Report: Role of distillers dried grains with solubles in necrotic enteritis. USPEA. 1 page. (100%)

Macklin, K.S. 2013. Final Report: Effects of Al+Clear[®]/iodine on recovery of *Salmonella* and *Clostridium perfringens* from litter. General Chemical. 4 pages. (100%)

Macklin, K.S. 2013. Final Report: Developing a novel necrotic enteritis challenge model using *Clostridium perfringens* containing the genes *tpeL* and *netB*. Enterprise Analysis Corporation. 12 pages. (100%)

Macklin, K.S. 2013. Final Report: Effects of Al+Clear[®]/Iodine on recovery of *Salmonella* from litter. General Chemical. 4 pages. (100%)

Hess, J.B., **K.S. Macklin**, and J.P. Blake. 2013. Wood pellet furnace field evaluations, October 2012 – April 2013. Lee Energy Solutions. 8 pages. (20%)

Macklin, K.S. 2013. Final Report: Evaluation of Poulvac E. coli efficacy when combined to Prebiotics or Probiotics against Avian Pathogenic *E. coli* (APEC) challenge in Broilers. Pfizer. 8 pages. (100%)

Berry, W.D. and **K.S. Macklin**. 2013. Final Report: Effect of feeding Poultry Shield FG on survival of *Salmonella* in laying hens. Georgia Sulfur. xx pages (30%)

Macklin, K.S. and J.B. Hess. 2013. Final Report: The effect of Maxiban on performance of broilers raised on litter seeded with oocysts isolated from operations where Maxiban has been used extensively and from operations where it has not been used. Elanco. 15 pages. (80%)

Macklin, K.S. 2013. Progress Report: Detection, quantification and modification of bacterial populations associated with broiler poultry litter. USDA AD421 annual report. 3 pages. (100%)

Macklin, K.S. 2013. Final Report: Challenge study to compare the effect of different dose levels of Poulvac SE/ND/IB in commercial layers. Pfizer, 5 pages. (100%)

Liles, M., **K. Macklin**, M. Singh, J. Kloepper and J. Terhune. 2013. Annual Report: Biological control of *Salmonella* and ammonia reduction in a poultry production system – year 2 progress report. 8 pages (25%)

Hess, J.B., S.F. Bilgili and **K.S. Macklin**. 2012. Final Report: Influence of complexed mineral supplementation on bone growth and intestinal microflora attachment in young broilers during heat stress. Zinpro Corporation. 8 pages. (20%)

Macklin, K.S. 2012. Final Report: Comparison of different dose levels of Poulvac SE/ND/IB in commercial layers. Pfizer. 5 pages. (100%)

Berry, W.D. and **K.S. Macklin**. 2012. Final Report: Effect of feeding Poultry Shield FG on survival of probiotic in laying hens. Georgia Sulfur. 8 pages. (30%)

Hess, J.B., **K.S. Macklin** and M.Z. Singh. 2012. Final Report: Influence of SEM on live performance and intestinal bacteria in broilers. Advanced Technology Products. 3 pages. (30%)

Blake, J.P., J.B. Hess and **K.S. Macklin**. 2012. Final Report: Comparison of Wood Burning Pellet Stoves to Conventional Heating Systems in Broiler Production. Lee Energy Products. 8 pages. (20%)

Macklin, K.S. 2012. Progress Report: Detection, quantification and modification of bacterial populations associated with broiler poultry litter. USDA AD421 annual report. 3 pages. (100%)

Liles, M., **K. Macklin**, M. Singh, J. Kloepper and J. Terhune. 2012. Annual Report: Biological control of *Salmonella* and ammonia reduction in a poultry production system – year 1 progress report. 3 pages (25%)

Macklin, K.S. and J.B. Hess. 2010. Final Report: The effect of GalliProTect and *B. subtilis* HLB on broiler live performance, footpad lesions and litter quality – trial B. Chr. Hansen. 14 pages. (80%).

Macklin, K.S. and J.P. Blake. 2010. Final Report: DSM tub trial. DSM. 5 pages. (80%).

Blake, J.P. and **K.S. Macklin**. 2010. Final Report: Litter treatment screening: Poultry shield and yellow jacket. Georgia Gulf Sulfur. 13 pages. (35%).

Macklin, K.S. and J.B. Hess. 2010. Final Report: The effect of GalliProTect and

B. subtilis HLB on broiler live performance, footpad lesions and litter quality – trial A. Chr. Hansen. 13 pages. (80%).

Giambrone, J.J. and **K.S. Macklin**. 2009. Final Report: Evaluation of an in ovo vaccine against Infectious Laryngotracheitis. Ceva-Biomune. 6 pages. (50%).

Blake, J.P., J.B. Hess and **K.S. Macklin**. 2009. Final Report: Evaluation of Poultry Fresh litter amendment at three application levels for broiler chickens. FibroChem. 11 pages (35%)

Macklin, K.S., J.B. Hess and M. Singh, 2009. Final Report: Influence of Royal Optimax on Broiler Live Performance and Yield. Van Beek Natural Sciences. 24 pages. (55%).

Macklin, K.S. and J.B. Hess. 2008. Final Report: Influence of ROS and RS 100 on Response to Coccidiosis Infection and Live Performance in Broilers Van Beek Natural Sciences. 10 pages. (50%)

Macklin, K.S., 2008. Final Report: To determine the efficacy of Rid-A-Vec™ on eliminating *C. perfringens* in poultry litter. Evergreen Organics. 9 pages. (100%)

Macklin, K.S. and J.B. Hess. 2008. Final Report: Influence of Narasin on Broiler Live Performance and Yield during the Withdrawal Period. Elanco Animal Health 13 pages. (65%).

Macklin, K.S. and J.B. Hess. 2008. Final Report: Influence of Narasin at Two Levels on Broiler Live Performance and Yield during the Withdrawal Period. Elanco Animal Health 13 pages. (65%).

Macklin, K.S., M. Singh, J. Hess and D. Conner, 2008. Progress Report. Improved sanitation of food processing and agriculture facilities through use of concrete treatments. Advanced Technology Products. 3 pages. (60%)

Macklin, K.S. and J.B. Hess, 2007. Final Report: Influence of Narasin on broiler live performance and yield during the withdrawal period. Elanco Animal Health. 13 pages. (60%)

Macklin K.S. 2007. Final Report: Affect of antibiotics on inhibiting a live *E. coli* vaccine. Fort Dodge, Overland Park, KS. 10 pages. (100%)

Macklin, K.S., 2007. Final Report: Route of vaccination and its influence on the efficacy on an *E. coli* vaccine. Fort Dodge, Overland Park, KS. 10 pages. (100%)

Bock, B.R. and **K.S. Macklin**, 2007. Final Report: Plan Development for Supplying Poultry Litter for Off-Farm Energy: Northeast Alabama Template. NRCS Grant Ref # 69-4101-6-56. 158 pages. (25%)

Macklin, K.S. 2006. Final Report: Efficacy study comparing the effect of *in ovo* or day of age antibiotics on day of age vaccination with Poulvac E. coli. Fort Dodge Animal Health. 11 pages (100%)

Giambrone, J.J., H. Toro, **K.S. Macklin** and R.A. Norton, 2006. Final Report: Effect of Poulvac E. coli on controlling *E. coli* infections. Fort Dodge Animal Health. 11 pages. (20%)

Giambrone, J.J. and **K.S. Macklin**, 2006. Litter Management to Minimize Infectious Viral Diseases. U.S. Poultry and Egg. 15 pages. (20%).

Macklin, K.S., J.B. Hess and D.E. Conner, 2006. Final Report: Role of SEM and Deep Seal in preventing Salmonella enteritis from infiltrating cement. Advanced Technological Products. 3 pages. (80%)

Macklin, K.S., R.A. Norton, J.P. Blake, J.J. Giambrone, J.B. Hess, and T. McCaskey, 2006. Final Report: Improving Litter Management to Minimize Hazards for Safe Litter Transport and Maximize the Flexibility of Litter Use. Alabama Poultry Litter Initiative. 8 pages. (55%)

Macklin, K.S., O.A. Oyarzabal, J.B. Hess, R.A. Norton, and S.F. Bilgili, 2005. Final Report: Effects of in-House Composting on Foodborne Pathogens in the Litter. U.S. Poultry and Egg. 9 pages. (90%)

Bilgili, S.F., O.A. Oyarzabal, R.A. Norton, and **K.S. Macklin**, 2005. Final Report: Effect of bambarmycins on enteric pathogens in broiler chickens. Intervet. 18 pages. (25%)

Hess, J.B., **K.S. Macklin**, and B.A. McCrea, 2005. Final Report: Litter beetle (lesser mealworm) counts in broiler houses treated with a range of insecticides. Kmg-Bernuth, Inc. 8 pages.(30%)

Norton, R.A., **K.S. Macklin**, J.B. Hess, and J.P. Blake, 2004. Final Report: The detection of avian pathogens associated with the transportation of poultry litter in Alabama. Alabama legislative initiative, Agricultural Systems and the Environment. 9 pages. (30%)

Blake, J.P. J.B. Hess, S.F. Bilgili and **K.S. Macklin**, 2004. Final Report: Broiler performance comparison of Bio-Mos and BMD in wheat-based diets. Alltech. 22 pages. (20%)

Oyarzabal, O.A., **K.S. Macklin**, J.B. Hess, R.A. Norton and M.K. Eckman, 2004. Final Report: Effect of non-nutritive feed additives on intestinal health. Elanco. 14 pages. (20%)

b. Hatch and Multistate Projects

1. Active

Macklin, K.S., et al. NE1442. Poultry Production Systems and Well-being: Sustainability for Tomorrow. 10/01/14-09/30/19.

2. Expired

Blake, J.P., J.B. Hess, **K.S. Macklin** et al. S1035 - Nutritional and Management Abatement Strategies for Improvement of Poultry Air and Water Quality. 10/01/2007 – 09/30/2012. ALA015-034.

Conner, D.E., Y.O Fasina, and **K.S. Macklin**. PROTEOMIC ANALYSIS OF INTESTINAL IMMUNE RESPONSE OF BROILER CHICKS TO CLOSTRIDIUM PERFRINGENS. 10/01/08-09/30/10. ALA018-6-08024

Moran, E.T. S.F. Bilgili, D. Conner, P.A. Curtis, **K. Macklin**, et al. S1027. THE POULTRY FOOD SYSTEM: A FARM TO TABLE MODEL. 10/01/2006 – 09/30/2010. ALA015-031

Bilgili, S. F., J.W. Hong, **K.S. Macklin**, O.A. Oyarzabal. ULTRA-SENSITIVE AND RAPID DETECTION OF LISTERIA MONOCYTOGENES IN READY-TO-EAT FOOD PRODUCTS WITH NANOFLUIDIC ARRAY SYSTEM. 10/01/2006 – 09/30/2009. ALA080-040

Berghaus, R.D., M.D. Lee, J.L. Wilson, M.J. Wineland, **K.S. Macklin**, K. Bramwell. MANAGEMENT PRACTICES FOR SALMONELLA REDUCTION ON BROILER BREEDER FARMS. 09/15/2007-09/14/2011. GEOV-0502

Macklin, K.S. Detection, Quantification and Modification of Bacterial Populations Associated with Poultry Litter. 10/01/2010 – 09/30/2015. ALA018-1-10027.

8. Contracts and Grants

a. Extramural Funding Received (candidate's contribution)

2017

9. Description of Scholarly Research Program

The candidate's appointment is fifty percent Extension (outreach), with the other half of his academic effort devoted to scholarly research. Keeping this in mind, the candidate has focused his efforts on practical research, which aids in supporting his

science-based Extension programs in Poultry Health and Management. It is critical that research deliverables produced be easily and cheaply integrated into existing commercial poultry practices. To accomplish this, the candidate interacts with poultry integrators and growers in Alabama to determine critical problems and means to correct or at the very least to mitigate them. To date the candidate has pursued several areas of research that, in some cases has had a direct and positive impact on not only the Alabama Poultry Industry, but on national and international poultry production. The majority of this research has been funded by industry and federal grants. In addition the candidate has used seed monies obtained from the College of Agriculture at Auburn University to perform some of the preliminary work needed to leverage some of the above mentioned grants. Most of the candidate's research has resulted in scientific and popular press articles. In addition to being presented at scientific venues, most of the practical research has been presented within Alabama, as well as nationally and internationally.

The candidate's specific area of expertise is in Poultry Health, with three primary focus areas: environmental effects that influence bird health, the role of feed additives on bird health and on farm food safety. To this end, the candidate has continually maintained several research projects. To date these include: the role of non-nutritive feed additives on coccidiosis and bacterial diseases (with Hess and Norton), determining the effect of distillers dried grains with solubles on enteric disease development (with Dozier), measuring the influence of litter treatments on important bacterial and viral pathogens (with Giambrone), using in-house windrow composting for the reduction of bacterial, protozoal and viral pathogens (with Giambrone, Hess and Bilgili), develop management techniques to mitigate ammonia in commercial broiler houses (Hess), testing litter samples for pathogen presence to ensure that the environment is not being contaminated, determine the effect of litter beetles in carrying pathogens from flock to flock and farm to farm (with Giambrone) and surveying commercial breeder houses to determine the prevalence of Salmonella and to devise methods to reduce it. Some of the novel approaches developed include: using non-antibiotic feed additives to influence poultry pathogens, looking at alternative bedding materials to determine its suitability for poultry, determining the pathogen carriage in litter beetles, developing a standard for bacterial isolation and quantification in poultry litter, using "in-house composting" to prolong the use of poultry bedding within the poultry house and showing that this technique is an important part of a good biosecurity plan. Isolating and testing bacteria to determine their suitability in reducing pathogens and ammonia in the poultry house environment. Testing these same bacteria to determine if they influence bird production and intestinal microbial load. Again, data derived from this mission orientated research compliment the candidates Extension program.

C. OUTREACH/EXTENSION

1. Commentary

a. Description of Program

The nature of the poultry industry is such that any developed program for the poultry producer must meet with approval from the Company, in order for it to become policy. This results from the fact that the structure of commercial poultry industry is based on the concept of horizontal and vertical integration. This means that operational policy is set at the highest level (Company) and implemented by the local Complex Manager through technical field people. As a result, the development of a single program with key national management people can result in the adaptation of this program by thousands of growers. When a program is developed at the local level (Complex) it will impact several hundred growers. This allows the candidate as well as other extension personnel in poultry to be extremely efficient in program delivery. In addition, the candidate can work with an individual grower. Though the impact isn't as great at this level, it still does impact the welfare of 250,000 or more chickens. This ideology of the poultry industry necessitates the use of novel approaches to Extension delivery.

As mentioned, program development is situational to the company. The program can be delivered by: on-site visits, result demonstrations, technical seminars, workshops and clinics. The development of an effective program requires access to everyone in the Department for their unique expertise and perspective. Outside expertise may be sought to supplement that which is found in the Department, in order to maintain a solid network of poultry expertise. Individuals must also stay abreast of all the latest techniques/technologies so that informed practical and readily applicable recommendations can be made to the constituents.

In addition to the needs of the commercial industry in Alabama there are constituents with small backyard flocks of poultry and gamebirds. Often times these flocks consist of different species of fowl (chickens, turkeys, pheasants, chukers, ducks, quail and other exotic species) that are typically of different ages. Most often these clients will contact their county or regional extension agent who then forwards their questions to the Extension Specialist. As an Extension Specialist, it is the candidate's responsibility to help these people as much as possible. Often times this is performed over the phone or by email; however there may be circumstances that may require an on-site visit in conjunction with the extension agent to properly assist the constituent.

b. Mission

Outreach activities are designed to primarily meet the needs that are present within the Alabama Poultry Industry; however it is important that the needs of the small backyard flock growers not be ignored. Thus a portion of the candidate's effort is devoted to non-commercial poultry interests in Alabama.

c. Scholarship

Delivery of new knowledge or technologies to constituents is performed through a combination of publications, presentations, result demonstrations and orientated delivery service. This information is designed to meet critical needs within Alabama's number one agriculture industry.

d. Impact

Alabama is one of the largest broiler producing states with over 1 billion chickens being processed annually; this translates into over 2.4 billion dollars in revenue. Measuring impact on an industry that large is difficult; this is primarily due to the large size of these companies and the confounding issues that are inherent with companies that size.

The candidate's training and experiences have been well received by the poultry industry and by the backyard poultry enthusiast. Though his education and experiences dealt primarily with academic problems, it has been adapted into developing a number of practical applications that can be used for improving bird health and welfare. These applications involve issues in: disease, health management, nutrition, genetics, immunology, food processing, and food safety. That being said, some of the candidate's recommendations concerning the cleanup of poultry houses after a flock has been removed, have been widely adopted in Alabama and nationally. Chief among these recommendations is the use of "in-house composting" to reduce bacterial, viral and protozoal pathogen load in poultry litter. The primary pathogens targeted have been *Clostridium perfringens*, Infectious Laryngotracheitis virus, and coccidia. All three organisms are highly pathogenic, inherently associated with poultry, and cause substantial economic and bird performance (quality of life) losses in poultry, in both commercial and non-commercial settings. In addition his recommendations on the use of litter treatments to reduce pathogens in litter are widely used. The candidate has influenced a couple of companies into trying "nontraditional" (nonantibiotic) feed additives. These recommendations were based on research performed at AU as well as information available in scientific journals. Over the past several years the candidate has been consulted by several companies concerning issues ranging from live bird production (breeder and broiler management/diseases, hatchery issues and environmental issues) to food safety issues at the processing plant.

The candidate's involvement with the Interagency Waste Management Team, as well as with the National Poultry Technology Center has also had a significant impact on the poultry industry. The Interagency Waste Management Team is responsible for providing training as well as recommendation to all animal agriculture industries on proper handling and disposal of animal waste. The National Poultry Technology Center is tasked with producing educational material as well as training on a variety of poultry issues; its primary mission is to provide information on innovative technologies/techniques that will save the company as well as the producer money.

Information concerning Avian Influenza has been disseminated to the general public has been a top priority to the candidate. For the backyard flock enthusiasts, information concerning basic biosecurity and its importance for not only disease prevention in their birds, but in the birds of their neighbors has also been disseminated. Information concerning the costs of raising small flocks for egg production has been distributed.

2. Activities and Products

a. Instructional Activities

1. Workshops/Short Courses

Since the candidates initial appointment the following workshops/shortcourses have been developed and delivered. He was involved in designing and delivering a short course on Backyard Poultry Flock Management with Drs Blake, Bilgili, and Hess. This short course was designed to give basic instruction/information to Extension Coordinators. This class has been taught to several extension personal and interested individuals three times since 2008.

Designed and delivered a two day workshop with Emeritus Professor Dr Michael Eckman on Coccidiosis in Poultry. This class was designed to teach the basics about this important poultry disease. This class has been taught at Auburn University to representatives from Meriel Inc. and Huvepharma.

He participated with Dr Shelly McKee in a Cochran Fellowship on January 29 - February 2, 2007 at Auburn University. The theme of presentations centered around biosecurity and Avian Influenza prevention. This information was delivered to a group of 15 individuals from Nigeria. The candidate delivered concentrating on biosecurity, pathogen reduction and pathogen recognition.

In conjunction with USAID, the candidate went to Kazakhstan to assist that country in developing better biosecurity and action plans against Avian Influenza. The workshop was held in Pavlodar, Kazakhstan on February 12-13, 2007 and had over 100 participants.

The candidate assisted in designing and delivering a Gamebird Short Course with Drs Blake and Hess. This short course was designed to give basic instruction/information to a growing segment in the poultry industry – gamebirds (quail, pheasant). This short course class is taught every other year.

Over the past several years the candidate has participated in over twenty-five Alabama Poultry and Egg Association educational seminars. These seminars are designed to deliver the results of the applied research that is being performed at Auburn University and it is an important function in determining

future research. These seminars typically have 50+ industry as well as individual growers present.

The candidate assisted in designing a short course for small flock (backyard) poultry enthusiasts with Drs. Blake and Hess. This short course covers the basics and is aimed primarily at the growing number of small flock enthusiasts in the state of Alabama. Over the past few years this short course has been given to thousands of people in this state and is one of our more popular short course offerings.

2. Youth Development

It is important for a person with the candidate's appointment to participate in several events that raise people's awareness about ACES (Alabama Cooperative Extension System) and poultry. One such activity is judging the Future Farmers of America contests. This event typically has 30-100 high school aged participants at the regional level and approximately 50 at the state level. The regional events are held in March while the state event is in May/June. The Poultry Science Department uses this event for recruiting; however it is equally important to let the participants know about ACES and what its mission is in the state. Another activity that the candidate actively participates in is the 4H Chick Chain Program that has been established in Alabama. This program overall has helped to raise young peoples awareness of the poultry industry as well as showing them the excitement to be had from raising and then showing animals. In 2013 there were over 100 children involved with this program and the numbers will grow in 2014 with increased participation by local extension agents (CEC). His contribution is in providing expert guidance in the area of biosecurity and health to the extension personal and to the participants. In addition to statewide 4H endeavors the candidate is involved with the National 4H Poultry and Egg Conference. He typically is involved with judging the contestants presentation at the annual meeting.

b. Technical Assistance

1. Commercial Poultry Producers & Processors

The candidate provides technical assistance in the form of live production information to the following Alabama companies: Tyson Foods, Wayne Farms LLC, Goldenrod Farms, Peco Foods, Koch Foods, Pilgrims Pride and Perdue Farms. This assistance can impact the health and well being of over 1 billion chickens in Alabama.

The majority of the candidate's technical assistance revolves on possible intervention techniques to reduce the pathogen load on the birds at the farm. This can involve several different procedures/management techniques; however typically "in-house composting" and its proper implementation and

management is the common question asked. On occasion his input has been sought as to the type and amount of litter treatment that should be applied to litter. Concerning health, the candidates input has been sought as to current as well as novel preventative/treatments to disease issues in chickens. In addition a couple of companies have asked him to troubleshoot the origin or factors contributing to a disease outbreak. Additionally he is involved with determining the possible causes of low fertility levels in breeders and examining possible confounding effects that may be present at the hatchery. The candidate is also involved with the Interagency Waste Management Team and the National Poultry Technology Center both of which have significant interactions with the commercial poultry industry.

The candidate generally receives between 3-5 phone calls/emails from this client base weekly. These questions can at times be easily resolved over the phone; however on occasion they do require an onsite visit.

2. Backyard Poultry

One of the more important aspects of this job is to maintain an open door policy concerning regional and country agents as well as backyard poultry growers. There have been many times that the candidate has fielded questions from one or the other groups. These questions typically deal with health issues; however a variety of questions have been asked ranging from Avian Influenza to the basics in raising chickens.

Typically the candidate receives between 5-7 phone calls/emails weekly concerning backyard poultry rearing issues. These issues are at times difficult to resolve, due to the lack of detailed information provided. However the candidate does his best to assist this group of clients. When the questions are outside the candidate's area of expertise he refers them to another colleague in the Department or to the Alabama Department of Agriculture and Industries.

c. Outreach Publications

1. Books

Ernst, M., H. Pepper, I. Hanning, K. McAnally, M. Williams, M. Brown, W. Murphy, W. Sneed, A. Carter, W. Bates, M.R. Smith and **K.S. Macklin**, contributors. Dec., 2015. Managing Risk: Regulations, Food Safety and Costs for On-farm Poultry Processing in Tennessee. University of Tennessee Extension System. 22pp. (15%).

Curtis, P. and **K.S. Macklin**, eds., Auburn Tailgating Times. 2014. iPhone app. Auburn University Food Systems Institute. (10%).

Macklin, K.S. and M.K. Eckman, eds., Field Diagnosis of Coccidiosis in

Chickens. 2007. Merial Select, Inc., Gainesville, GA. 32 pp. (80%)

2. Articles published through Alabama Cooperative Extension System (ACES)

Macklin, K. 2017. Avian Influenza Faq. Alabama Cooperative Extension Services, ANR-2304. March 2017. p. 1-2. (100%)

Macklin, K., J. Hess, J. Blake. 2017. Biosecurity for Backyard Poultry Flocks. Alabama Cooperative Extension Services, ANR-2391. March 2017. p. 1-2. (75%)

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Hess, J.B. S.F. Bilgili, J.P. Blake and **K.S. Macklin.** 2011. Avian embryology posters aid in science education. PPA23 Success Story. AL Cooperative Extension System (15%).

Hess, J., **K. Macklin,** J. Blake. 2011. Home Layer Flock Management Suggestions. *Timely Information* (3 pp. p.). Agriculture and Natural Resources, Alabama Cooperative Extension System. (30%).

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Hess, J.B., **K.S. Macklin**, S.F. Bilgili and J.P. Blake. 2008. In-house windrow composting – how, when and why. Alabama Cooperative Extension Services, Timely Information. April 2008. p. 1-2
<http://www.aces.edu/timelyinfo/Poultry/2008/April/psApril08.pdf> (30%)

Blake, J.P., J.B. Hess and **K.S. Macklin**. 2007. Nutrition for backyard chicken flocks. Alabama Cooperative Extension System article ANR-1317. Spring 2007 (15%)

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3. Popular Press Articles (*Student contribution)

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Macklin, K.S. 2014. Pressure on the poultry industry: putting a stop to all antibiotics is complicated. In: Auburn Speaks – On Food Systems, 2014. p. 46-51. (80%).

b. Magazine Articles

Hauck, R and **K. Macklin**. 2017. Control of coccidiosis. Alabama Poultry Magazine, Sept./Oct., 24-26. (30%)

Giambrone, J.G., **K. S. Macklin** and J. Roberts. 2017. The role of poultry feed, litter beetles, drinking water, and mice in the transmission of Avian Influenza virus (AIV). Alabama Poultry Magazine, July/August, 24-26. (30%)

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Macklin, K.S. and R.A. Norton. 2006. Know your enemy: gangrenous dermatitis. The Alabama Poultry Magazine. January/February 2006: 17 (80%)

Hess, J.B., **K.S. Macklin** and R.A. Norton. 2006. Bird flu – what you need to know. Alabama Poultry Progress. Winter 2006: 1-2. (20%)

Macklin, K.S. 2005. Know your enemy: *Clostridium perfringens*. Worthwhile Operational Guidelines & Suggestions. April 2005. URL: <http://www.ag.auburn.edu/poul/pdf/wogsapr05.pdf> (100%)

Hess, J.B., **K.S. Macklin**, and R.A. Norton. 2005. Footbaths to reduce disease risk. The Alabama Poultry Monthly. March: 14. (25%)

Hess, J.B., **K.S. Macklin**, and S. F. Bilgili. 2005. Disease suppression and performance enhancement through litter composting between flocks. The Alabama Poultry Monthly. February: 7. (20%)

Hess, J.B, J.P. Blake, S.F. Bilgili, M.K. Eckman, R.A. Norton, **K.S. Macklin** and E. A. Guertal. 2003. Sand litter tested on broiler farms. Feedinfo.com URL: http://www.feedinfo.com/asp/scientific/science_res.asp?login=KNF&pass=BTC TSM&id_sci=1998 (10%)

Hess, J.B., R.A. Norton, K.M. Downs, **K.S. Macklin**, and S.F. Bilgili. 2000. Trace mineral complexes found to reduce avian cellulitis levels in broiler studies. Trace Mineral Focus 6(4): 1-4 (10%)

4. Invited Lectures with Published Text (*Student contribution)

Macklin, K. 2017. Impacts of Avian Influenza. Alabama League of Municipalities Mini Boot Camp. Birmingham, AL, May 23, 2017. (100%).

Macklin, K.S., J.B. Hess and W. Pacheco. 2017. What is the VFD and how it impacts treating small flocks with antibiotics. Delaware Agriculture Week, Harrington, DE, January 11, 2017. (80%)

Macklin, K.S. and J.B. Hess. 2017. In-house windrow composting – Pathogen reduction. Delaware Agriculture Week, Harrington, DE, January 9, 2017. (90%).

Hess, J.B. and **K.S. Macklin**. 2016. Feeding small poultry flocks. Mississippi Veterinary Medical Association, Starkville, MS, February 18-20, 2016. (20%)

Macklin, K.S. and J.B. Hess. 2016. Raising chickens for fun. Mississippi Veterinary Medical Association, Starkville, MS, February 18-20, 2016. (80%)

Macklin, K.S. and J.B. Hess. 2015. Basic husbandry for backyard flocks. Emerald Coast Veterinary Conference, Destin, FL, June 4-7, 2015. (80%)

Macklin, K.S., J.B. Hess and S.F. Bilgili. 2015. Pre-harvest food safety. Poultry Federation's 2015 Food Safety Conference, Branson, MO, March 16-17, 2015. (80%)

Hess, J.B. and **K.S. Macklin**. 2014. Small poultry flocks – basics and product marketing. Emerald Coast Veterinary Conference, Destin, FL, June, 2014. (30%)

Macklin, K.S. 2014. Parasites, worms and regulations on medicating gamebirds. Alabama Gamebird Workshop, Cullman, AL, March 13, 2014. (100%)

Macklin, K.S. 2014. Parasites, worms and regulations on medicating gamebirds. Alabama Gamebird Workshop, Montgomery, AL, March 12, 2014. (100%)

Hess, J.B., W.D. Dozier, **K.S. Macklin**, S.F. Bilgili and W.D. Berry. 2013. Feeding broilers on built-up litter. Carolina Feed Industry Association. Research Triangle Park, NC, November 12-13, 2013. (20%)

Macklin, K.S. 2012. Commercially raised broiler chickens. Second Life Course for Redlands OK Community College. Auburn, AL, February 29, 2012. (100%)

Kloepper, M., P. Curtis and **K. Macklin**. 2012. Using second life to teach college students about commercial poultry. Second Life Course for Redlands OK Community College. Auburn, AL, February 29, 2012. (25%)

Hess, J., J. Blake, **K. Macklin**, S. Bilgili, R. Hilburn. 2011. Poultry – Welfare and basic husbandry, Animal Agriculture 101, Alabama Coalition for Farm Animal Care and Well-Being, Mobile, AL, June, 2011. (15%)

Kloepper, M., P. Curtis and **K. Macklin**. 2011. Using second life to teach college students about commercial poultry. Second Life Course for Redlands OK Community College. Auburn, AL, December 6, 2011. (25%)

Macklin, K.S. 2011. Commercially Raised Broiler Chickens. Second Life Course for Redlands OK Community College. Auburn, AL, December 6, 2011. (100%)

Kloepper, M., P. Curtis and **K. Macklin**. 2011 Using second life to teach college students about commercial poultry. Second Life Course for Redlands OK Community College. Auburn, AL, April 5, 2011. (25%)

Macklin, K.S. 2011. Commercially Raised Broiler Chickens. Second Life Course for Redlands OK Community College. Auburn, AL, April 5, 2011. (100%)

Macklin, K.S. 2010. Commercially Raised Broiler Chickens. Second Life Course for Redlands OK Community College. Auburn, AL, Sept. 28, 2010. (100%)

Kloepper, M., P. Curtis and **K. Macklin**. 2010. Commercially Poultry Course. Second Life Course for Redlands OK Community College. Auburn, AL, Sept. 28, 2010. (25%)

Macklin, K.S. 2010. Managing Disease in Game Birds. Game Bird Short Course. Auburn, AL, June 15, 2010. (100%)

Macklin, K.S. 2010. Practical Biosecurity for Game Bird Producers. Game Bird Short Course. Auburn, AL, June 15, 2010. (100%)

Macklin, K.S. 2010. Commercially Raised Broiler Chickens. Second Life Course for Redlands OK Community College. Auburn, AL, Feb. 16, 2010. (100%)

Kloepper, M., P. Curtis and **K. Macklin** 2010. Commercially Poultry Course. Second Life Course for OK Redlands Community College. Auburn, AL, Feb. 16, 2010. (25%)

Macklin, K.S. 2009. Litter Management. Alabama Poultry and Egg Association Industry Workshop, Auburn, AL, November 10-11, 2009. (100%)

Macklin, K.S. 2009. General Internal Anatomy. AU Department of Poultry Science, Poultry Teacher Education Shortcourse. Auburn, AL, June 23-25, 2009. (100%)

*Butler, J. and **K.S. Macklin**, 2009. Carcass Grading and Placing. AU Department of Poultry Science, Poultry Teacher Education Shortcourse. Auburn, AL, June 23-25, 2009. (50%)

Hess, J.B., **K.S. Macklin**, J.P. Blake and S.F. Bilgili. 2009. Managing built up broiler litter. Kentucky Poultry Federation Conference, March 21, 2009, Bowling Green, KY. (15%)

Hess, J.B., **K.S. Macklin**, J.P. Blake and S.F. Bilgili. 2009. Managing built up broiler litter. Midwest Poultry Federation Conference, March 18-19, 2009, Saint Paul, MN. (15%)

Macklin, K.S. 2008. Pathogen reduction in litter. US Poultry and Egg Poultry Production and Health Seminar, Nashville, TN, September 17-18, 2008 (100%)

Hess, J.B., S.F. Bilgili, J.P. Blake, **K.S. Macklin** and J.L. Sibley. 2008. Pennsylvania Poultry Sale and Service Conference and 80th Northeastern Conference on Avian Diseases. State College, PA. September 16-17, 2008. (15%)

Macklin, K.S. 2008. Litter management and biosecurity. North Carolina Broiler Supervisor's Short Course. McSwain Extension Center, Sanford, NC, April 17, 2008.

Macklin, K.S. 2007. In-house windrow composting. Delmarva Poultry Conference, Ocean City, MD, September 11-13, 2007. (100%)

Macklin, K.S., J.J. Giambone, S. Ou and F. Hoerr. 2007. Diseases associated with litter beetles. Alabama Poultry and Egg Association Broiler Workshop, Auburn, AL, October 9-10, 2007. (90%)

Hess, J.B., S.F. Bilgili, J.P. Blake, **K.S. Macklin** and J.L. Sibley, 2007. AU research: Paws and litter sources. Alabama Poultry and Egg Association Broiler Workshop, Auburn, AL, October 9-10, 2007. (15%)

Blake, J.P., J.B. Hess, and **K.S. Macklin.** 2006. Alternatives to shavings and litter amendments. Alabama Poultry and Egg Association Breeder Seminar. Auburn, AL, November 18, 2006. (25%)

Macklin, K.S. 2006. Avian Influenza Facts. Presented to Chemstation. Dayton, OH. September 27-28, 2006 (100%)

Macklin, K.S. 2006. Avian Influenza Facts. Alabama Poultry and Egg Association Processor Meeting. Birmingham, AL. September 20, 2006 (100%)

Macklin, K.S. 2006. Maximizing broiler performance. Presented to Koch Poultry. Chattanooga, TN. September 19, 2006. (100%)

Hess, J.B., **K.S. Macklin**, J.P. Blake, and S.F. Bilgili. 2006. Built-up vs. new litter. Proceedings of the US Poultry and Egg Association Production and Health Seminar, Memphis, TN, Sept 12-13, 2006 (25%)

Macklin, K.S. 2006. General Internal Anatomy. AU Department of Poultry Science, Poultry Teacher Education Shortcourse. Auburn, Al, June 27-29, 2006. (100%)

Macklin, K.S. 2006. Carcass Grading and Placing. AU Department of Poultry Science, Poultry Teacher Education Shortcourse. Auburn, Al, June 27-29, 2006. (100%)

Macklin, K.S. 2006. What you really need to know and tell your students about Bird Flu. AU Department of Poultry Science, Poultry Teacher Education Shortcourse. Auburn, Al, June 27-29, 2006. (100%)

Macklin, K.S. 2006. *Clostridium colinum* and *Clostridium perfringens*: What are they and how to keep them out of my birds. Game Bird Short Course. Auburn, Alabama. May 23-24, 2006. (100%)

Blake, J.P., **K.S. Macklin**, J.J. Giambrone, J.B. Hess and E. Walner-Pendleton. 2006. Game Bird Short Course. Auburn, Alabama. May 23-24, 2006. (35%)

Eckman, M.K. and **K.S. Macklin**. 2005. Avian Coccidiosis Short Course. Presented to Merial-Select. Auburn, Alabama. Feb. 9-10, 2005 (20%)

Hess, J.B., **K.S. Macklin**, S.F. Bilgili, J.P. Blake, R.A. Norton, M. Roden, and T. LaVergne. 2004. Improving performance and reducing disease: In-house composting. Alabama Poultry and Egg Association-Broiler Seminar. Auburn, Alabama. Oct 20, 2004. (25%)

Hess, J.B., **K.S. Macklin**, S.F. Bilgili, J.P. Blake, R.A. Norton, M. Roden, and T. LaVergne. 2004. Improving performance and reducing disease: In-house composting. Alabama Poultry and Egg Association-Grower Seminar. Troy, Alabama. Oct 21, 2004. (25%)

Hess, J.B., **K.S. Macklin**, S.F. Bilgili, J.P. Blake, R.A. Norton, M. Roden, and T. LaVergne. 2004. Improving performance and reducing disease: In-house composting. Alabama Poultry and Egg Association-Grower Seminar. New Brocton, Alabama. Oct 21, 2004. (25%)

Hess, J.B., **K.S. Macklin**, S.F. Bilgili, J.P. Blake, R.A. Norton, M. Roden, and T. LaVergne. 2004. Improving performance and reducing disease: In-house composting. Alabama Poultry and Egg Association-Grower Seminar. Cullman, Alabama. Oct 28, 2004 (25%).

Hess, J.B., **K.S. Macklin**, S.F. Bilgili, J.P. Blake, R.A. Norton, M. Roden, and T. LaVergne. 2004. Improving performance and reducing disease: In-house composting. Alabama Poultry and Egg Association-Grower Seminar. Boaz, Alabama. Oct 28, 2004. (25%)

Hess, J.B., K.M. Downs, R.A. Norton, **K.S. Macklin**, and S.F. Bilgili. 2004. Cellulitis/ Paw quality. U.S. Poultry and Egg Association's Poultry Production and Health Seminar. Memphis, Tennessee. September 15-16, 2004. (20%)

5. Invited Lectures without Published Text

Hess, J.B., W.J. Pacheco and **K.S. Macklin**. 2017. Avoiding disease in small poultry flocks through management and feeding. 4H Boot Camp. Auburn, AL, Dec. 2, 2017. (25%).

*Singh, B. and **K.S. Macklin**. 2017. Backyard biosecurity. 4H Boot Camp. Auburn, AL, Dec. 2, 2017. (70%).

Hess, J.B., M.K. Stanford, W.A. Dozier, **K.S. Macklin**, P.R. Hilburn and W.D. Berry, 2017. More money in your pocket. Sunbelt Ag Expo. Moultrie, GA, Oct. 18-20, 2017. (10%)

Macklin, K.S. 2017. Keeping your poultry healthy. Sunbelt Ag Expo. Moultrie, GA, Oct. 18-20, 2017. (100%)

Hess, J.B., W.J. Pacheco and **K.S. Macklin**. 2016. Small poultry flocks- Management and feeding. Alabama Cooperative Extension System. Birmingham, AL. Aug. 14, 2017. (20%).

Hess, J.B., W.J. Pacheco and **K.S. Macklin**. 2017. Avoiding disease in small poultry flocks through management and feeding. Alabama Cooperative Extension System. Birmingham, AL. Aug. 14, 2017. (25%)

Hess, J.B., **K.S. Macklin**, W. Pacheco and J.J. Giambrone. 2017. Avian Influenza- Backyard poultry flocks. Small Scale Poultry Meeting. Cullman, AL, April 13, 2017. (30%)

Norton, R., S. Ostrowski, J. Wright, E. Monu, C. Starkey, G. Weaver and **K. Macklin**. 2017. What does it take to produce a nutritious, safe, abundant, economical and secure food supply? Community and Civic Engagement Spring 2017 Symposium. Auburn, AL, March 27, 2017. (5%).

Hess, J.B., W.J. Pacheco and **K.S. Macklin**. 2017. Avoiding disease in small poultry flocks through management and feeding. Alabama Cooperative Extension System. Ashville, AL, March 16, 2017. (25%)

Hess, J.B., W.J. Pacheco and **K.S. Macklin**. 2016. Small poultry flocks- Management and feeding. Mobile County Extension. Dec 15, 2016 (20%).

Hess, J.B., W.J. Pacheco and **K.S. Macklin**. 2016. Small poultry flocks- Management and feeding. Baldwin County Extension. Dec. 13, 2016. (20%).

Macklin, K.S. 2016. Avian Influenza. Rotary Club, Auburn, AL, November 30, 2016. (100%)

Hess, J.B., S.F. Bilgili, **K.S. Macklin**, W. Pacheco and W.D. Berry. 2016. Optimizing Footpad Health. Sunbelt Ag Expo. Moultrie, GA, Oct. 18-20, 2016. (15%)

Macklin, K.S. 2016. Food safety in poultry production. Sunbelt Ag Expo. Moultrie, GA, Oct. 18-20, 2016. (100%)

Hess, J.B., S.F. Bilgili, **K.S. Macklin**, W. Pacheco and W.D. Berry. 2016. Optimizing Paw Quality. Pennsylvania Poultry Sales and Service Conference and 88th Northeastern Conference on Avian Diseases. State College, PA, Sept. 28-29, 2016. (15%).

Hess, J.B. and **K.S. Macklin**, 2016. Genetically modified organisms in poultry raised for meat or eggs. Fact or Fiction, Birmingham, AL, Sept. 22, 2016. (20%)

Hess, J.B., W.D. Berry and **K.S. Macklin**. 2016. Litter management – winter into spring. SAP&EA. Ariton, AL, May 3, 2016. (30%)

Hess, J.B., W.D. Berry and **K.S. Macklin**. 2016. Litter management – winter into spring. WP&EA. Chancellor, AL, April 19, 2016. (20%)

Pacheco, W.J., J.B. Hess and **K.S. Macklin**. 2016. Feed quality for gamebirds. Southeastern Game Birds Breeders and Hunting Preserve Association Short Course. Auburn, AL, April 15, 2016. (10%)

Pacheco, W.J., J.B. Hess and **K.S. Macklin**. 2016. Effect of feed processing on poultry performance. Poultry Nutrition and Milling Seminar. Guntersville, AL, April, 2016. (10%)

Pacheco, W.J., J.B. Hess and **K.S. Macklin**. 2016. Pellet quality: why it's important and how to get there. USPoultry Feed Mill Management Seminar, Nashville, TN, March 16-17, 2016. (10%)

Hess, J.B., W.D. Berry and **K.S. Macklin**. 2016. Litter management – winter into spring. CCP&EA. Lineville, AL, March 10, 2016. (20%)

Macklin, K.S. and J.B. Hess. 2016. Raising chickens for fun. Alabama Cooperative Extension System, Phenix City, AL, March 3, 2016. (30%)

Hess, J.B. and **K.S. Macklin**. 2016. Feeding small poultry flocks. Alabama Cooperative Extension System, Phenix City, AL, March 3, 2016. (30%)

Macklin, K.S. and J.B. Hess. 2015. Raising chickens – the basics. Sunbelt AG Expo Poultry Program, Moultrie, GA, October 22, 2015. (70%)

Hess, J.B., J.D. Davis, **K.S. Macklin**, S.F. Bilgili, H.A. Torbert, D.B. Watts, J. Sibley and W.D. Berry, 2015. Bedding Materials for Broilers. Sunbelt AG Expo, Oct. 21, 2015. (30%)

Macklin, K., J. Hess and J. Giambone. 2015. Avian flu and what you can do. Sunbelt AG Expo AU Program, Moultrie, GA, Afternoon of October 21, 2015. (80%)

Macklin, K., J. Hess, D. Conner and W. Pacheco. 2015. Poultry industry in Alabama and vertical integration. Ag Discovery Day, Milstead, AL, October 10, 2015. (70%)

Macklin, K., J. Hess and J. Giambrone. 2015. Avian flu and what you can do. Alabama Cooperative Extension System, Tuscumbia, AL, October 5, 2015. (80%)

Hess, J.B., **K.S. Macklin,** W. Pacheco and J.J. Giambrone, 2015. Avian Influenza - Backyard Poultry Flocks. Jacksonville, AL, Sept. 28, 2015. (40%)

Macklin, K., J. Hess and J. Giambrone. 2015. Avian flu and what you can do. Alabama Cooperative Extension System, Boaz, AL, September 22, 2015. (70%)

Hess, J.B., **K.S. Macklin,** W. Pacheco and J.J. Giambrone, 2015. Avian Influenza - Potential Issues. Lee County 4-H Teen Leader Club, Sept. 10, 2015. (40%)

Macklin, K. 2015. Biosecurity and you. South Alabama Poultry and Egg Association, Ariton, AL, September 8, 2015. (100%)

Hess, J.B. and **K.S. Macklin.** 2015. Preparing for avian influenza. Central Alabama Poultry and Egg Association, Luverne, AL, August 18, 2015. (40%)

Hess, J.B., **K.S. Macklin,** W. Pacheco and J.J. Giambrone, 2015. Preparing for Avian Influenza. Wiregrass Poultry and Egg Association, Chancellor, AL, August 13, 2015. (40%)

Macklin, K.S. and W. Pacheco. 2015. Poultry basics. Alabama Cooperative Extension System, Clanton County Expo, Clanton, AL, August 8, 2015. (80%)

Hess, J.B., **K.S. Macklin** and W. Pacheco, 2015. Feeding Small Poultry Flocks. Basics of Backyard Livestock, Pelham, AL, June 17, 2015. (30%)

Macklin, K. 2015. Poultry diseases. Alabama 4-H Chick Chain Inservice, Autauga, AL, May 18, 2015. (100%)

Macklin, K. 2015. Biosecurity. Alabama 4-H Chick Chain Inservice, Autauga, AL, May 18, 2015. (100%)

Hess, J.B., **K.S. Macklin** and W. Pacheco, 2015. Feeding Small Poultry Flocks. Alabama 4-H Chick Chain Inservice, Autauga, AL. May 18, 2015. (30%)

Macklin, K.S., J.B. Hess and D.E. Conner. 2015. Poultry farm move update. Alabama Poultry Producers – ALFA, Montgomery, AL, April 29, 2015. (60%)

Hess, J.B. and **K.S. Macklin**, 2015. Small Poultry Flocks - Basics and Product Marketing. Chicken Production/ Meat Myths Workshop. Brierfield, AL, April 16, 2015. (30%)

Hess, J.B. and **K.S. Macklin**, 2015. Hormones and Antibiotics in Poultry. Chicken Production/ Meat Myths Workshop. Brierfield, AL, April 16, 2015. (20%)

Hess, J.B., W.D. Berry and **K.S. Macklin**. 2014. Chick quality and early performance. Sunbelt AG Expo Poultry Program, Moultrie, GA, October 16, 2014. (20%)

Macklin, K.S. 2014. Backyard flock production. Sunbelt AG Expo Poultry Program, Moultrie, GA, October 16, 2014. (100%)

Macklin, K.S. 2014. Keeping healthy flocks. Sunbelt AG Expo Poultry Program, Moultrie, GA, October 15, 2014. (100%)

Macklin, K.S. 2014. Biosecurity and you. Central Alabama Poultry and Egg Association, Greenville, AL, September 30, 2014. (100%)

Macklin, K.S. and J.B. Hess. 2014. Backyard flock management and health. Alabama Cooperative Extension System, Wetumpka, AL, June 10, 2014. (80%)

Hess, J.B. and **K.S. Macklin**. 2014. Small poultry flocks – basics and product marketing. Alabama Cooperative Extension System, Wetumpka, AL, June 10, 2014. (30%)

Macklin, K.S. and J.B. Hess. 2014. Backyard flock management and health. Alabama Cooperative Extension System, Dadeville, AL, June 4, 2014. (80%)

Hess, J.B. and **K.S. Macklin**. 2014. Small poultry flocks – basics and product marketing. Alabama Cooperative Extension System, Dadeville, AL, June 4, 2014. (30%)

Hess, J.B. and **K.S. Macklin**. 2014. Important diseases of backyard poultry. Alabama Cooperative Extension System, Columbiana, AL, May, 2014. (30%)

Hess, J.B. and **K.S. Macklin**. 2014. Small poultry flocks – basics and product marketing. Alabama Cooperative Extension System, Columbiana, AL, May, 2014. (30%)

Hess, J.B., **K.S. Macklin**, J. Cline, T. Kelly and S. Lockaby. 2014. Avoiding diseases in small poultry flocks through management and feeding, Backyard

Poultry Workshop, Alabama Cooperative Extension System, Florence, AL, April, 2014. (20%)

Hess, J.B and **K.S. Macklin**. 2014. Small poultry flocks – basics and product marketing. Alabama Cooperative Extension System, Florence, AL, April, 2014. (30%)

Macklin, K.S. 2014. Everything there is to know about poultry diseases. Mobile Bay Backyard Chicken Club, Mobile, AL, March 30, 2014. (100%)

Macklin, K.S. 2013. Backyard poultry diseases and management. Backyard Poultry Processing, Alabama Cooperative Extension System, Fosters, AL, October 29, 2013. (100%)

Hess, J.B., **K.S. Macklin**, J. Cline, T. Kelly and S. Lockaby. 2013. Avoiding diseases in small poultry flocks through management and feeding, Backyard Poultry Workshop, Alabama Cooperative Extension System, Birmingham, AL, October 24, 2013. (20%)

Hess, J.B. and **K.S. Macklin**. 2013. Small poultry flocks – basics and product marketing. Backyard Poultry Workshop, Alabama Cooperative Extension System, Birmingham, AL, October 24, 2013. (30%)

Macklin, K.S. 2013. Keeping your poultry healthy. Sunbelt AG Expo Poultry Program, Moultrie, GA, October 16, 2013. (100%)

Hess, J.B., S.F. Bilgili, J.P. Blake, **K.S. Macklin** and J.L. Sibley. 2013. Alternative litter (bedding) sources for broilers. Sunbelt AG Expo Poultry Program, Moultrie, GA, October 15, 2013. (30%)

Hess, J.B. and **K.S. Macklin**. 2013. Small poultry flocks – basics and product marketing. Backyard Poultry Workshop, Alabama Cooperative Extension System, Gadsen, AL, August 13, 2013. (30%)

Macklin, K.S., J.P. Blake and J.B. Hess. 2013. Raising chickens for fun and profit. Backyard Poultry Workshop, Alabama Cooperative Extension System, Gadsen, AL, August 13, 2013. (80%)

Hess, J.B., W.D. Berry and **K.S. Macklin**. 2013. Chick quality and early performance. Central Alabama Poultry and Egg Association Meeting. August 2013. (15%)

Hess, J.B. and **K.S. Macklin**. 2013. Small poultry flocks – basics and product marketing. Backyard Poultry Workshop, Alabama Cooperative Extension System, Crossville, AL, August 6, 2013. (30%)

Macklin, K.S., J.P. Blake and J.B. Hess. 2013. Raising chickens for fun and profit. Backyard Poultry Workshop, Alabama Cooperative Extension System, Crossville, AL, August 6, 2013. (80%)

Macklin, K.S., J.P. Blake and J.B. Hess. 2013. Disease and biosecurity for the backyard flock, Backyard Poultry Workshop, Alabama Cooperative Extension System, Haleyville, AL, April 30, 2013. (80%)

Blake, J.P., Hess, J.B., **Macklin, K.S.** 2013. Getting started: introduction, breeds, management, Backyard Poultry Workshop, Alabama Cooperative Extension System, Haleyville, AL, April 30, 2013. (30%)

Hess, J.B., J.P. Blake and **K.S. Macklin.** 2013. Backyard flock feeding and management, Backyard Poultry Workshop, Alabama Cooperative Extension System, Haleyville, AL, April 30, 2013. (20%)

Hess, J.B., **K.S. Macklin**, J. Cline, T. Kelly and S. Lockaby. 2013. Avoiding diseases in small poultry flocks through management and feeding, Backyard Poultry Workshop, Alabama Cooperative Extension System, Moulton, AL, April 11, 2013. (20%)

Hess, J.B., **K.S. Macklin**, J.J. Giambrone, J. Cline, T. Kelly and S. Lockaby. 2013. Important diseases of backyard poultry, Backyard Poultry Workshop, Alabama Cooperative Extension System, Moulton, AL, April 11, 2013. (20%)

Macklin, K.S., J.P. Blake and J.B. Hess. 2013. Disease and biosecurity for the backyard flock, Backyard Poultry Workshop, Alabama Cooperative Extension System, Shelby County, AL, April 9, 2013. (80%)

Blake, J.P., Hess, J.B., **Macklin, K.S.** 2013. Getting started: introduction, breeds, management, Backyard Poultry Workshop, Alabama Cooperative Extension System, Shelby County, AL, April 9, 2013. (30%)

Hess, J.B., J.P. Blake and **K.S. Macklin.** 2013. Avoiding diseases in small poultry flocks through management and feeding, Backyard Poultry Workshop, Alabama Cooperative Extension System, Shelby County, AL, April 9, 2013. (20%)

Macklin, K.S., J.P. Blake and J.B. Hess. 2013. Disease and biosecurity for the backyard flock, Backyard Poultry Workshop, Alabama Cooperative Extension System, Oneonta, AL, March 21, 2013. (80%)

Hess, J.B., J.P. Blake and **K.S. Macklin.** 2013. Nutrition and Management for Backyard Poultry, Backyard Poultry Workshop, Alabama Cooperative Extension System, Oneonta, AL, March 21, 2013. (20%)

Blake, J.P., Hess, J.B., **Macklin, K.S.** 2013. Getting started: introduction, breeds, management, Backyard Poultry Workshop, Alabama Cooperative Extension System Oneonta, AL, March 21, 2013. (30%)

Hess, J.B., **K.S. Macklin**, J.J. Giambrone, J. Cline, T. Kelly and S. Lockaby. 2013. Important diseases of backyard poultry, Backyard Poultry Workshop, Alabama Cooperative Extension System, Mobile, AL, March, 2013. (20%)

Macklin, K.S. 2013. Managing Poultry Waste. Invited speaker to - Sardar Vallabhbhai Patel University of Agriculture & Technology, Meerut, Uttar Pradesh, India. January 9, 2013. (100%)

Macklin, K.S. 2012. The role of biosecurity and sanitation in protecting your chickens. Sunbelt AG Expo Poultry Program, Moultrie, GA, Oct. 16, 2012. (100%)

Hess, J.B. and **K.S. Macklin**. 2012. Hormones, Antibiotics, Food Safety and Poultry. Sunbelt AG Expo Poultry Program, Moultrie, GA, Oct. 17, 2012. (20%)

Macklin, K.S., J.P. Blake and J.B. Hess. 2012. Disease and biosecurity for the backyard flock, Backyard Poultry Workshop, Alabama Cooperative Extension System, Fayette, AL, October 11, 2012. (80%)

Hess, J.B., J.P. Blake and **K.S. Macklin**. 2012. Nutrition and Management for Backyard Poultry, Backyard Poultry Workshop, Alabama Cooperative Extension System, Fayette, AL, October 11, 2012. (20%)

Blake, J.P., Hess, J.B., **Macklin, K.S.** 2012. Getting started: introduction, breeds, management, Backyard Poultry Workshop, Alabama Cooperative Extension System, Fayette, AL, October 11, 2012. (30%)

*Bailey, M., **K.S. Macklin**, J.P. Blake and J.B. Hess. 2012. Backyard Poultry Workshop. Auburn, AL. Raising Poultry. Sept.1, 2012. (70%)

Macklin, K.S. 2012. Disease and biosecurity for the backyard flock. Backyard Poultry Workshop, Alabama Cooperative Extension System, Clanton, AL, July 31, 2012. (100%)

Hess, J.B., J.P. Blake and **K.S. Macklin**. 2012. Nutrition and Management for Backyard Poultry, Backyard Poultry Workshop, Alabama Cooperative Extension System, Clanton, AL, July 31, 2012. (20%)

Blake, J.P., J.B. Hess, **K.S. Macklin**. 2012. Getting started: introduction, breeds, management. Backyard Poultry Workshop, Alabama Cooperative Extension System, Clanton, AL, July 31, 2012. (30%)

Macklin, K.S. 2012. Disease and biosecurity for the backyard flock. Backyard Poultry Workshop, Alabama Cooperative Extension System, Headland, AL, July 26, 2012. (100%)

Hess, J.B., J.P. Blake and **K.S. Macklin.** 2012. Nutrition and Management for Backyard Poultry, Backyard Poultry Workshop, Alabama Cooperative Extension System, Headland, AL, July 26, 2012. (20%)

Blake, J.P., J.B. Hess, **K.S. Macklin.** 2012. Getting started: introduction, breeds, management. Backyard Poultry Workshop, Alabama Cooperative Extension System, Headland, AL, July 26, 2012. (30%)

Macklin, K.S. 2012. Disease and biosecurity for the backyard flock. Backyard Poultry Workshop, Alabama Cooperative Extension System, Union Spring, AL, July 19, 2012. (100%)

Hess, J.B., J.P. Blake and **K.S. Macklin.** 2012. Nutrition and Management for Backyard Poultry, Backyard Poultry Workshop, Alabama Cooperative Extension System, Union Springs, AL, July 19, 2012. (20%)

Blake, J.P., J.B. Hess, **K.S. Macklin.** 2012. Getting started: introduction, breeds, management. Backyard Poultry Workshop, Alabama Cooperative Extension System, Union Spring, AL, July 19, 2012. (30%)

Macklin, K.S. 2012. Disease management for control of ILTV. Golden Rod Poultry. Cullman, AL May 31, 2012. (100%)

Macklin, K.S., J.P. Blake and J.B. Hess. 2012. Raising chickens for fun and profit. Backyard Poultry Workshop, Alabama Cooperative Extension System, Andalusia, AL, May 10, 2012. (70%)

Blake, J.P., J.B. Hess, **K.S. Macklin.** 2012. Opportunities for a poultry flock. Backyard Poultry Workshop, Alabama Cooperative Extension System, Andalusia, AL, May 10, 2012. (20%)

Hess, J.B., **K.S. Macklin,** J.P. Blake, J. Cline, T. Kelly and S. Lockaby. 2012. Avoiding diseases in small poultry flocks through management and feeding, Backyard Poultry Health and Disease Management Seminar, Brewton, AL, March 29, 2012. (20%)

Hess, J.B., **K.S. Macklin,** J.J. Giambone, J. Cline, T. Kelly and S. Lockaby. 2012. Important diseases of backyard poultry, Backyard Poultry Health and Disease Management Seminar, Brewton, AL, March 29, 2012. (20%)

Hess, J.B., **K.S. Macklin,** J.P. Blake, J. Cline, T. Kelly and S. Lockaby. 2012. Avoiding diseases in small poultry flocks through management and feeding,

Backyard Poultry Health and Disease Management Seminar, Elba, AL, March 28, 2012. (20%)

Hess, J.B., **K.S. Macklin**, J.J. Giambone, J. Cline, T. Kelly and S. Lockaby. 2012. Important diseases of backyard poultry, Backyard Poultry Health and Disease Management Seminar, Elba, AL, March 28, 2012. (20%)

Hess, J.B., **K.S. Macklin**, J.P. Blake, J. Cline, T. Kelly and S. Lockaby. 2012. Avoiding diseases in small poultry flocks through management and feeding, Backyard Poultry Health and Disease Management Seminar, Autaugaville, AL, March 22, 2012. (20%)

Hess, J.B., **K.S. Macklin**, J.J. Giambone, J. Cline, T. Kelly and S. Lockaby. 2012. Important diseases of backyard poultry, Backyard Poultry Health and Disease Management Seminar, Autaugaville, AL, March 22, 2012. (20%)

Hess, J.B., J.P. Blake and **K.S. Macklin**. 2012. Nutrition and Management for Backyard Poultry, Backyard Poultry Workshop, Alabama Cooperative Extension System, Hamilton, AL, March 20, 2012. (15%)

Macklin, K.S. 2012. Disease and biosecurity for the backyard flock, Backyard Poultry Workshop, Alabama Cooperative Extension System, Hamilton, AL, March 20, 2012. (100%)

Blake, J., Hess, J., **Macklin, K.** 2012. Getting started: introduction, breeds, management, Backyard Poultry Workshop, Alabama Cooperative Extension System, Hamilton, AL, March 20, 2012. (20%)

Hess, J.B., **K.S. Macklin**, J.P. Blake, J. Cline, T. Kelly and S. Lockaby. 2012. Avoiding diseases in small poultry flocks through management and feeding, Backyard Poultry Health and Disease Management Seminar, Pell City, AL, March 19, 2012. (20%)

Hess, J.B., **K.S. Macklin**, J.J. Giambone, J. Cline, T. Kelly and S. Lockaby. 2012. Important diseases of backyard poultry, Backyard Poultry Health and Disease Management Seminar, Pell City, AL, March 19, 2012. (20%)

Blake, J., Hess, J., **Macklin, K.** 2012. Raising chickens for fun and profit. Backyard Poultry Workshop, Alabama Cooperative Extension System, Hazel Green, AL, March 17, 2012. (20%)

Blake, J., **K.S. Macklin**, J.B. Hess. 2012. Opportunities for a poultry flock, Backyard Poultry Workshop, Alabama Cooperative Extension System, Hazel Green, AL, March 17, 2012. (30%)

Macklin, K.S. and D.E. Conner. 2012. About AU Poultry Department. Indian Institute of Crop Processing Technology (IICPT), Tanjavur, Tamil Nadu, India. March 15, 2012. (75%)

Macklin, K.S. 2012. Structure of the US Poultry Industry. Indian Institute of Crop Processing Technology (IICPT), Tanjavur, Tamil Nadu, India. March 15, 2012. (100%)

Macklin, K.S. and D.E. Conner. 2012. About AU Poultry Department. Tamil Nadu Veterinary and Animal Sciences University (TANUVAS). Chennai, Tamil Nadu, India. March 14, 2012. (75%)

Macklin, K.S. 2012. Structure of the US Poultry Industry. Punjab Agricultural University (PAU), Ludhiana, Punjab, India. March 12, 2012. (100%)

Macklin, K.S. and D.E. Conner. 2012. About AU Poultry Department. Punjab Agricultural University (PAU), Ludhiana, Punjab, India. March 12, 2012. (75%)

Hess, J.B. and **K.S. Macklin, K.** 2011. House management to reduce disease. Central Alabama Poultry and Egg Association Meeting, Greenville, AL. November 2011. (35%)

Macklin, K., J. Blake, and J. Hess. 2011. Choosing and managing a small poultry flock. Alabama Ethnic Food Security Network's 1st Annual Conference, Alabama Cooperative Extension System, Hazel Green, AL, October 2011.

Blake, J., **K. Macklin** and J. Hess. 2011. Feeding and profiteering your poultry flock. Alabama Ethnic Food Security Network's 1st Annual Conference, Alabama Cooperative Extension System, Hazel Green, AL, October 2011. (40%)

Macklin, K., J. Giambrone, J. 2011. Common Poultry Diseases, Sunbelt Agricultural Expo Poultry Program, Sunbelt Agricultural Expo, Moultrie, GA, October 2011. (75%)

Hess, J., J. Blake, W. Dozier, **K. Macklin,** and S. Bilgili. 2011. Sampling feed properly when there is a problem. Sunbelt Agricultural Expo Poultry Program, Sunbelt Agricultural Expo, Moultrie, GA, October 2011. (15%)

Macklin, K. 2011. Disease and biosecurity for the backyard flock, Backyard Poultry Workshop, Alabama Cooperative Extension System, Auburn, Alabama, September 2011. (100%)

Blake, J. J. Hess, **K. Macklin.** 2011. Getting started: introduction, breeds, and management. Backyard Poultry Workshop, Alabama Cooperative Extension System, Auburn, Alabama, September 2011. (25%).

Macklin, K. 2011. Disease and biosecurity for the backyard flock, Backyard Poultry Workshop, Alabama Cooperative Extension System, Pell City, Alabama, July 2011. (100%)

Blake, J. J. Hess, **K. Macklin.** 2011. Getting started: introduction, breeds, and management. Backyard Poultry Workshop, Alabama Cooperative Extension System, Pell City, Alabama, July 2011. (25%).

Macklin, K., J. Hess, J. Blake, and S. Bilgili. 2011. Broiler litter issues in the United States. Technical Seminar for Brazilians, Alltech, Auburn, AL, June 2011. (65%)

Macklin, K. 2011. Disease and biosecurity for the backyard flock, Backyard Poultry Workshop, Alabama Cooperative Extension System, Birmingham, Alabama, May 2011. (100%)

Macklin, K. 2011. Disease and biosecurity for the backyard flock, Backyard Poultry Workshop, Alabama Cooperative Extension System, Calhoun Co, Alabama, May 2011. (100%)

Blake, J. J. Hess, **K. Macklin.** 2011. Getting started: introduction, breeds, and management. Backyard Poultry Workshop, Alabama Cooperative Extension System, Birmingham, Alabama, May 2011. (25%).

Macklin, K. 2011. Disease and biosecurity for the backyard flock, Backyard Poultry Workshop, Alabama Cooperative Extension System, Calhoun Co, Alabama, May 2011.

Blake, J. J. Hess, **K. Macklin.** 2011. Getting started: introduction, breeds, and management. Backyard Poultry Workshop, Alabama Cooperative Extension System, Calhoun Co, Alabama, May 2011. (25%).

Macklin, K. 2011. Beetle control in poultry houses. Central Alabama Poultry & Egg Association Quarterly Meeting, Luverne, AL, April 2011. (100%)

Hess, J. and **K. Macklin.** 2011. Backyard Poultry. Trinity Christian School Outdoor Expo, Opelika, AL, April 2011. (100%)

Hess, J.B. and **K.S. Macklin.** 2011. House management to reduce disease. Central Alabama Poultry and Egg Association. Greenville, AL, Jan. 20, 2011.

Macklin, K.S. 2010. Problems with litter beetles and their control. Alabama Poultry and Egg Association, New Brockton, AL, October 19, 2010. (100%)

Macklin, K.S. 2010. Problems with litter beetles and their control. Alabama Poultry and Egg Association, Troy, AL, October 19, 2010. (100%)

Macklin, K.S. and J.B. Hess. 2010. Efficient energy use in poultry production. Sunbelt AG Expo Poultry Program, Moultrie, GA, Oct. 19, 2010. (75%).

Macklin, K.S. 2010. Problems with litter beetles and their control. Alabama Poultry and Egg Association, Cullman, AL, October 18, 2010.

Macklin, K.S. 2010. Problems with litter beetles and their control. Alabama Poultry and Egg Association, Snead, AL, October 18, 2010.

Macklin, K.S. 2010. Disease control and biosecurity for the backyard flock. Backyard Chicken Workshop, Andalusia, AL, July 29, 2010. (100%).

Macklin, K.S. 2010. Litter Issues. Alltech Brazilian Poultry Group. Auburn, AL, May 13, 2010. (100%).

Macklin, K.S. 2010. Backyard flock biosecurity. Backyard Chicken Workshop, Foley, AL, March 23, 2010

Macklin, K.S. 2010. In-house windrow composting. Koch Poultry Grower Seminar Series, Heflin, AL, March 9, 2010. (100%).

Hess, J.B., J.P. Blake and **K.S. Macklin.** 2010. Broiler litter - Decision making. Koch Poultry Grower Seminar Series, Heflin, AL, March 9, 2010. (30%).

Hess, J.B., J.P. Blake, **K.S. Macklin** and S.F. Bilgili. 2010. Alternative Litter Sources/Litter Management. North American Gamebird Association's 78th Annual Meeting. San Antonio, TX, February 15-17, 2010. (20%).

Hess, J.B., J.P. Blake, S.F. Bilgili and **K.S. Macklin.** 2010. Ammonia – Broiler Health and Performance. 38th Annual Commodity Producers Conference, Birmingham, AL February 2-4, 2010. (15%)

Hess, J.B. and **K.S. Macklin.** 2010. Broiler Litter – Decision Making. Central Alabama Poultry and Egg Association, Greenville, AL, January 21, 2010. (30%)

Macklin, K.S.. 2010. How to In-house Windrow Compost Poultry Litter. Central Alabama Poultry and Egg Association, Greenville, AL, January 21, 2010. (100%).

Macklin, K.S. 2009. Salmonella control in broilers. Ceva- Biomune. Lake Guntersville State Park, AL, December 2, 2009. (100%).

Macklin, K.S. 2009. Backyard Poultry Health. Regional Extension Workshop – Backyard Poultry, Columbiana, AL, Nov. 16, 2009. (100%).

Hess, J.B. J.P. Blake and **K.S. Macklin.** 2009. Ammonia-Broiler Health and Performance. AL Poultry and Egg Association Education Seminars. Luverne, AL, October 27, 2009. (20%).

Macklin, K.S. 2009. Winter Diseases. AL Poultry and Egg Association Education Seminars. Luverne, AL, October 27, 2009. (100%).

Hess, J.B. J.P. Blake and **K.S. Macklin.** 2009. Ammonia-Broiler Health and Performance. AL Poultry and Egg Association Education Seminars. New Brockton, AL, October 27, 2009. (20%).

Macklin, K.S. 2009. Winter Diseases. AL Poultry and Egg Association Education Seminars. New Brockton, AL, October 27, 2009. (100%).

Macklin, K.S. 2009. Winter Diseases. AL Poultry and Egg Association Education Seminars. Cullman, AL, October 26, 2009. (100%).

Hess, J.B. J.P. Blake and **K.S. Macklin.** 2009. Ammonia-Broiler Health and Performance. AL Poultry and Egg Association Education Seminars. Cullman, AL, October 26, 2009. (20%).

Hess, J.B. J.P. Blake and **K.S. Macklin.** 2009. Ammonia-Broiler Health and Performance. AL Poultry and Egg Association Education Seminars. Snead, AL, October 26, 2009. (20%).

Macklin, K.S. 2009. Winter Diseases. AL Poultry and Egg Association Education Seminars. Snead, AL, October 26, 2009. (100%).

Macklin, K.S. 2009. Bird and Swine Flu: What you should know. Sunbelt Ag Expo, Moultrie, GA, October 22, 2009. (100%)

Bilgili, S.F., J.B. Hess, J.P. Blake and **K.S. Macklin.** 2009. Alternative litter sources for broilers. Central Alabama Poultry and Egg Association Meeting, April 16, 2009, Luverne, AL. (15%)

Hess, J.B., **K.S. Macklin,** J.P. Blake and S.F. Bilgili. 2009. In-house composting of broiler litter. Waste Management in the Mid-South Region, Auburn, AL, January 22, 2009 (40%).

Hess, J.B. and **K.S. Macklin.** 2008 How Growers are Saving and Making Money Through Litter Management. AL Poultry and Egg Association Education Seminars. New Brockton, AL, October 28, 2008. (50%)

Macklin, K.S. and J.B. Hess. 2008. How Growers are Saving and Making Money Through Litter Management. AL Poultry and Egg Association Education Seminars. Troy, AL, October 28, 2008. (50%)

Hess, J.B. and **K.S. Macklin.** 2008. How Growers are Saving and Making Money Through Litter Management. AL Poultry and Egg Association Education Seminars. Snead, AL, October 27, 2008. (50%)

Macklin, K.S. and J.B. Hess. 2008. How Growers are Saving and Making Money Through Litter Management. AL Poultry and Egg Association Education Seminars. Cullman, AL, October 27, 2008. (50%)

Hess, J.B. and **K.S. Macklin.** 2008. Busting the Myth of Hormones and Antibiotics in Poultry. Sunbelt Ag Expo, Moultrie, GA, October 16, 2008 (25%).

Macklin, K.S. 2008. Bird Flu: Myth and Facts. Sunbelt Ag Expo, Moultrie, GA, October 16, 2008. (100%)

Macklin, K.S. 2008. Health Programs and Biosecurity for the Poultry Hobbyist. Backyard Flock Short Course, Rockford, AL September 22, 2008 (100%)

Hess, J.B., S.F. Bilgili, J.P. Blake, **K.S. Macklin** and J.L. Sibley. 2008. Alternative Sources/Litter Amendments. Pennsylvania Poultry Sales and Service Conference and 80th Northeastern Conference on Avian Disease. State College, PA September 16-17, 2008. (15%)

Macklin, K.S. 2008. In-House Windrow Composting. 36th Annual Commodity Producers Conference, Birmingham, AL August 7-9, 2008. (100%)

Hess, J.B., S.F. Bilgili, J.P. Blake and **K.S. Macklin.** 2008. Alternative Litter Sources for Broiler Houses. 36th Annual Commodity Producers Conference, Birmingham, AL August 7-9, 2008. (15%)

Blake, J.P., **K.S. Macklin,** and J.B. Hess. 2008. Litter Treatments. 36th Annual Commodity Producers Conference, Birmingham, AL August 7-9, 2008. (20%)

Macklin, K.S. 2008. Health programs for the hobbyist. Backyard Poultry Flocks Short Course, Poultry Science Building, Auburn University, AL, June 2, 2008.

Macklin, K.S. and J.P. Blake. 2008. Overview of commercial poultry industry. Backyard Poultry Flocks Short Course, Poultry Science Building, Auburn University, AL, June 2, 2008.

Macklin, K. 2008. Windrow composting for litter reuse or movement. New Brockton, AL, May 15, 2008. (100%).

Hess, J. S. Bilgili, J. Blake and **K. Macklin.** 2008. Litter management: decision making. New Brockton, AL, May 15, 2008. (10%).

Blake, J., J. Hess, and **K. Macklin.** 2008. Litter treatments to control ammonia. New Brockton, AL, May 15, 2008. (10%)

Bilgili, S.F., J.B. Hess and **K.S. Macklin.** 2008. Alternative litter sources for broilers. New Brockton, AL, May 15, 2008. (10%)

Macklin, K. 2008. Windrow composting for litter reuse or movement. Troy, AL, May 14 2008. (100%).

Hess, J. S. Bilgili, J. Blake and **K. Macklin.** 2008. Litter management: decision making. Troy, AL, May 14 2008. (10%).

Blake, J., J. Hess, and **K. Macklin.** 2008. Litter treatments to control ammonia. Troy, AL, May 14 2008. (10%)

Bilgili, S.F., J.B. Hess and **K.S. Macklin.** 2008. Alternative litter sources for broilers. Troy, AL, May 14 2008. (10%)

Hess, J. S. Bilgili, J. Blake and **K. Macklin.** 2008. Litter management: decision making. Moulton, AL, April 30, 2008. (10%)

Macklin, K. 2008. Windrow composting for litter reuse or movement. Moulton, AL, April 30, 2008. (100%)

Blake, J., J. Hess, and **K. Macklin.** 2008. Litter treatments to control ammonia. Moulton, AL, April 30, 2008. (10%)

Bilgili, S.F., J.B. Hess and **K.S. Macklin.** 2008. Alternative litter sources for broilers. Moulton, AL, April 30, 2008. (10%)

Hess, J. S. Bilgili, J. Blake and **K. Macklin.** 2008. Litter management: decision making. Crossville, AL, April 29, 2008. (10%)

Macklin, K. 2008. Windrow composting for litter reuse or movement. Crossville, AL, April 29, 2008. (100%)

Blake, J., J. Hess, and **K. Macklin.** 2008. Litter treatments to control ammonia. Crossville, AL, April 29, 2008. (10%)

Bilgili, S.F., J.B. Hess and **K.S. Macklin.** 2008. Alternative litter sources for

broilers. Crossville, AL, April 29, 2008. (10%)

Macklin, K.S. 2007. The truth about Avian Influenza. Sunbelt Ag Expo, Moultrie, GA, October 16-18, 2007. (100%)

Macklin, K.S. 2007. Biosecurity and the use of in-house windrow composting. Central AL Poultry Association, Luverne, AL, April 12, 2007. (100%)

Bock, B., **K. Macklin**, M. Roden, and B. Garner. CCPI-Coordinating poultry litter supplies. Poultry Litter Task Force Meeting, Crossville, AL, April 19, 2007. (30%)

Macklin, K.S., J.P. Blake, and J.B. Hess 2007. Bedding types in-house windrow composting and you. Regional Alabama Poultry and Egg Association Meeting, Wedowee, AL, May 17, 2007. (75%)

Macklin, K.S. 2007. Disease issues of interest to Alabama broiler and breeder growers, Alabama Poultry and Egg Association Annual Grower Meeting, Birmingham, AL, June 16, 2007. (100%)

Hess, J.B. and **K.S. Macklin**, 2007. Busting the myth about hormones and antibiotics in poultry. Sunbelt Ag Expo, Moultrie, GA, October 16-18, 2007. (15%)

Macklin, K.S. 2007. Using in-house windrow composting to prolong litter usage Field Days, Crossville, AL, October 23, 2007. (100%)

Macklin, K.S. and R. A. Norton. 2007. Current status of the avian flu, seasonal flu and other stuff. Tuscaloosa, AL, January 8, 2007. (50%)

Macklin, K.S. 2006. The truth about bird flu. Sunbelt Expo Avian Program. Moultrie GA, October 17, 2006 (100%)

Macklin, K.S. and R.A. Norton. 2006. Bird Flu Facts. Lee County Youth Development Center. Auburn, AL. October 4, 2006. (50%)

d. Electronic Products

Macklin, K.S. 2017. eXtension, Ask an Expert (AaE) contributor. All year. <https://ask.extension.org/expert/users/2298> (100%)

Macklin, K.S., J.P. Blake, J.B. Hess, S.F. Bilgili, and W. Pacheco. 2017. Backyard Poultry Resources, 2017 ed. Flash Drive. June 2017. (40%).

Macklin, K.S. and J.B. Hess. 2017. Alabama Cooperative Extension System, Avian Influenza Website. March-April 2017
<http://www.aces.edu/eden/agricultural-disasters/avian-influenza/> (75%)

Macklin, K.S. 2017. Avian Influenza – stating the facts. YouTube Video. March 7, 2017. <https://www.youtube.com/watch?v=BMppnk-96gc> (100%)

Macklin, K.S. 2016. eXtension, Ask an Expert (AaE) contributor. All year. <https://ask.extension.org/expert/users/2298> (100%)

Macklin, K.S. 2015. eXtension, Ask an Expert (AaE) contributor. All year. <https://ask.extension.org/expert/users/2298> (100%)

Macklin, K.S., J.B. Hess and H. Carroll. 2015. Biosecurity on the poultry farm (part 1). October 2015. <https://www.youtube.com/watch?v=HE4pwQS9qLI> (40%)

Macklin, K.S. 2014. eXtension, Ask an Expert (AaE) contributor. All year. <https://ask.extension.org/expert/users/2298> (100%)

Macklin, K.S. 2013. eXtension contributor to the small and backyard flocks site – Internal parasites, external parasites, darkling beetles, antibiotics, anticoccidials and vaccines, ionophores, poultry litter. All year. www.eXtension.org/poultry (100%)

Macklin, K.S. 2013. eXtension, Ask an Expert (AaE) contributor. All year. <https://ask.extension.org/expert/users/2298>

Blake, J.P., J.B. Hess, **K.S. Macklin** and S.F. Bilgili. 2012. Backyard Poultry Resources, 2012 ed. Compact Disc. June 2012. (10%).

Macklin, K.S. 2012. eXtension contributor to the small and backyard flocks site – Internal parasites, external parasites, darkling beetles, antibiotics, anticoccidials and vaccines, ionophores, poultry litter. All year. www.eXtension.org/poultry

Macklin, K.S. 2012. eXtension, Ask an Expert (AaE) contributor. All year. <https://ask.extension.org/expert/users/2298>

Kloepper, M., P. Curtis, and K.S. Macklin. 2012. AU Poultry Program in Second Life. <http://secondlife.com>

Macklin, K.S. 2012. DDGs and Necrotic Enteritis. February 2012. Truffle Media Networks. <http://www.trufflemedia.com/agmedia/blog/2012/02/16143/ddgs-raise-potential-necrotic-enteritis>

Macklin, K.S. 2011. eXtension, Ask an Expert (AaE) contributor. All year.
<https://ask.extension.org/expert/users/2298>

Kloepper, M., P. Curtis, and K.S. Macklin. 2011. AU Poultry Program in Second Life. <http://secondlife.com>

Macklin, K.S. 2010. eXtension, Ask an Expert (AaE) contributor. All year.
<https://ask.extension.org/expert/users/2298>

Kloepper, M., P. Curtis, and K.S. Macklin. 2010. AU Poultry Program in Second Life. <http://secondlife.com>

Macklin, K.S. 2008. Coccidiosis part 1. November 2008 iTunes pod cast
<https://deimos.apple.com/WebObjects/Core.woa/BrowsePrivately/auburn.edu.1367659370.01367937610.1516198859?i=1964433071> (100%)

Macklin, K.S. 2008. Coccidiosis part 2. November 2008 iTunes pod cast.
<https://deimos.apple.com/WebObjects/Core.woa/BrowsePrivately/auburn.edu.1367659370.01367937610.1516198859?i=1964433071> (100%)

Blake, J.P., J.B. Hess, **K.S. Macklin** and S.F. Bilgili. 2008. Backyard Poultry Resources, 2008 ed. Compact Disc. June 2008. (10%).

Langcuster, Jim, R.A. Norton and **K.S. Macklin**. 2006. Bird Flu. What you need to know. mms://wms.aces.edu/media/satellite/norton/avian_02.wmv
Extension daily streamed video. May 10, 2006 (30%)

e. Other Outreach Products

1. Fliers/Posters

Macklin, K.S. 2010. Fact sheet to prevent disease. Made into a flier in English and Spanish. Printed July 2010. (100%)

Hess, J.B., S.F. Bilgili, J.P. Blake and **K.S. Macklin**. 2010. The incredible egg laying hen. Poster produced for display at Sunbelt Ag Expo, Moultrie, GA. (10%).

Macklin, K.S. and R. Hilburn. 2010. Information for broiler and pullet producers concerning litter. White paper produced for Alabama Department of Agriculture and Industries. Printed March 2010 as a flier. (65%)

Campbell, J., G. Simpson, J. Donald, **K. Macklin** and F. Tabor. 2010. Broiler house lighting developments. Printed January 2010 as a flier. (10%)

Hess, J.B. S.F. Bilgili, J.P. Blake and **K.S. Macklin**. 2009. Avian embryology poster. Printed October 2009 as a teaching aid (15%).

Macklin, K.S., W.D. Dozier, J.B. Hess, G. Simpson and J.O. Donald. 2009. Thoughts on the concept of high density brooding for Alabama broilers. White paper produced for the Alabama Poultry and Egg Association Grower Committee in January 2009

Macklin, K.S., P. Curtis, S.F. Bilgili, J.P. Blake and J.B. Hess. 2008. Auburn University's Role in Conserving Our Resources. Poster presented at the International Poultry Expo. Atlanta GA. January 23-25, 2008 (80%)

Macklin, K.S., D. Conner and R. Voitle. 2007. Avian Influenza-updates. Poster presented at Sunbelt Expo, Moultrie GA. October 16-18, 2007. (80%)

Macklin, K.S., J.B. Hess, D. Conner and R. Voitle. 2006. Avian Influenza-a few things you should know. Poster presented at Sunbelt Expo, Moultrie GA. October 17-19, 2006. (80%)

Macklin, K.S. and J.B. Hess. 2006. Avian influenza – what you should know. Poster produced for the Poultry Industry. April 2006. (75%)

2. Miscellaneous – Input sought and cited

Tarver, Toni. 2017. Auburn poultry researchers analyze the cost of freedom. In: Food Technology, April 2017.

Hollis, Paul. 2016. Auburn scientist tracking sources of bird influenza. In: Poultry Times, August 1, 2016.

Bezell, Keri Ann. 2016. Poultry production in Alabama.
<http://www.farmflavor.com/alabama/alabama-agribusiness/strutting-their-stuff-alabama-takes-pride-in-poultry/>

Lawrence, Maggie. 2015. Fowl plague: what you need to know about bird flu spreading south this fall. In: several papers in the state of Alabama. Late summer early fall 2015.

Lawrence, Maggie. 2015. Battling avian influenza- biosecurity is a crucial tool in keeping the virus at bay. In: AFC Cooperative Farm News, August 2015.

Edgemon, Erin, 2015. Where did your chicken sandwich come from? A look behind the scenes. March 15, 2015.
http://www.al.com/news/index.ssf/2015/03/it_starts_of_course_with_an_eg.htm
1

Hyman, Julie, 2015. Chickens, what's in them. Info sought for Bloomberg TV report.

Viator, Catherine, Mary Muth and Jenna Brophy. 2015. Costs of food safety investments. Feb. 6, 2015.

<http://www.fsis.usda.gov/wps/wcm/connect/0cdc568e-f6b1-45dc-88f1-45f343ed0bcd/Food-Safety-Costs.pdf?MOD=AJPERES>

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f. Copyrights, Patents and Inventions

N/A

g. Grants, Contracts and Gifts

See B, 8 above

D. Service

1. University Service

a. Service to the University

2016-present Department representative to the University Senate
2016 Grievance Panel Chair
2015-present Faculty Grievance Committee
2013-2017 Patent Committee
2009-2013 Traffic Appeals Committee - Chairman
2007-2009 Traffic Appeals Committee - Member
2005-2011 Judge for the Auburn University Graduate Student Forum

b. Service to the College of Agriculture

2017-present CoAg Team Leader – Animal Production
2015-2016 CoAg Dean search committee
2010-2014 Budget advisory committee
2011-2013 Ag Illustrated committee
2011-2013 College IT committee

c. Service to the Department of Poultry Science

2016 Search committee chair for the joint CVM/POUL Poultry Health
Assistant/Associate Professor
2015-present Member of the farm committee
2014 Search committee for Feed Mill Extension Specialist/Assistant
Professor
2013 Department affiliate faculty committee - member
2013 Search committee for Poultry Production Assistant Professor
2013 Search committee for the Communication Specialist – search 2
2013 Search committee for the Communication Specialist – search 1
2012-present Chair of the information technology committee
2012-2013 Department strategic planning committee – member
2010-2013 Co-advisor to the Poultry Science Club
2008 Search committee for the Department of Poultry Science Recruiter.
2007 Search committee for lab manager with Robert Norton
2006-2010 Advisor to the Poultry Science Club
2006-2011 Provide content to the Departmental web page that is pertinent to
Alabamians interested in poultry and poultry production
2006 Member of the search committee for the Departmental Recruiter
2006 Member of the search committee for the Farm Superintendent

2005-present Member of the Extension Committee
2004-present Chair of the Poultry Science Building Committee
2003-2004 Move coordinator into the poultry science building
2002-2011 Member of the Information Technology Committee

2. Professional Societies

2017 Southern Conference on Avian Disease - President

2014-present National 4-H Poultry and Egg Conference Committee - Member
2014-present Poultry Science Association - Member of the Food Safety and Health Committee

2014-present Southern Conference on Avian Disease - Director
2012-2014 US Poultry and Egg Associations – Poultry Production and Health Seminar Planning Committee

2011-present Alabama Poultry and Egg Associations – Annual Meeting Planning Committee

2011-present Alabama Avian Health Advisory Board - Member
2009-2013 Triennial Poultry Extension Workshop - Chair
2006-2017 Content provider for the webpage for Poultry Science Association - This position is responsible for keeping the webpage up to date with current topical news that affects poultry.

2008-2012 Program Chair for 2012 Annual Meeting of Poultry Science Association.

2006-present Treasurer to the Auburn Chapter of Sigma XI
2005-2012 Member of Poultry Science Association Extension Committee
2005-2012 National Poultry Extension Workshop - Planning Committee
2005-2009 Triennial Poultry Extension Workshop - Co-Chair
2005 Poultry Science Association Information Technology Liaison

Chair/Moderator:

2016 Poultry Science Association, Section Chair
2015 Poultry Science Association, Session Chair
2015 Poultry Science Association, Section Chair
2011 Southeastern Poultry Science Association, Session Chair
2010 Southeastern Poultry Science Association, Session Chair
2009 Poultry Science Association, Section Chair
2009 Southeastern Poultry Science Association, Graduate Student Judge
2008 Poultry Science Association, Session Chair
2006 Southeastern Poultry Science Association, Section Chair

Editorial Duties

The candidate has served as an ad hoc reviewer for the USDA-NIFA, USDA-ARS, Avian Pathology, Journal of Poultry Science, Journal of Applied Poultry

Research, Journal of Tropical Animal Health and Production, Veterinary Record, PLoS One, Journal of Animal Physiology and Animal Nutrition and Journal of Food Protection. Annually the candidate is asked to review between 8-10 journal articles. In this capacity he reviews scientific articles for suitability in these journals.