



Friday Notes from *MSSTATE Poultry Science*

Friday Notes – to keep you informed about noteworthy news from Poultry Science at Mississippi State...and let us hear from you as well!

Poultry Science Department News: Faculty, Staff, and Student Travel and Activities:

- **Activities this week**
 - **Dr. Leonel Mejia**, with Cobb-Vantress and former graduate student with **Dr. McDaniel**, presented a seminar, “Poultry Production in Central America,” and discussed post-graduate life, April 2.
 - **Janak Dhakal** (PhD grad student with **Dr. Sharma**) presented and led the discussion of “Habit 5” from Stephen Covey’s book in graduate seminar, April 2.
 - **Dr. Beck** met with architects to discuss elements of the proposed new Poultry Science building, March 31.
- **Recent and other inadvertently omitted activities:**
 - **Dr. McDaniel** has given the following invited presentations:
 - “Fertility,” Louisiana Poultry Federation, March 11.
 - “Success with Breeders Requires a Solid Program and a Solid Understanding of the Physiology of Males and Females.” Annual Pilgrim’s Mangers Meeting in Guntersville, AL, June 25, 2014.
 - “Understanding Male Fertility and the Causes of Infertility. MPA Live Production Interest Group Meeting, Pearl Diagnostic Lab and Collins, August 5 and 6, 2014.
 - “Male Management and Fertility.” Koch Foods Managers Meeting for Cobb-Vantress, Hoover, AL, October 29, 2014.
 - “Rooster Fertility.” Alabama Poultry Industry Workshop, Alabama Poultry and Egg Association, Auburn University, November 12, 2014.
- **Congratulations to...**
 - **Yemi Olojede** (MS grad student with **Dr. Peebles**), for receiving Third Place in the 13th Annual Graduate Research Symposium – Life and Biomedical Sciences and Engineering Section, with her presentation, “Comparative evaluation of three different methods for determining embryo temperature in broiler hatching eggs”; http://www.grad.msstate.edu/current/orgs/gsa/pdfs/2015_GSRS_Winners.pdf
 - **Dr. Peebles** and **Dr. Sharma**, whose research labs were recognized as two of the top 41 labs at MSU for outstanding safety records over the past three years; March 27.

Running Cumulative List of Scientific and Extension Publications, 2015**Poultry Science:****Refereed manuscripts inadvertently omitted in 2014:**

- **Bello, A., W. Zhai, P. D. Gerard, and E. D. Peebles.** 2014. Effects of the commercial in ovo injection of 25-hydroxycholecalciferol on broiler posthatch performance and carcass characteristics. *Poultry Science* 93: 155-162. <http://dx.doi.org/10.3382/ps.2013-03389>
- **Bello, A., M.R. Bricka, P.D. Gerard, and E.D. Peebles.** Effects of commercial in ovo injection of 25-hydroxycholecalciferol on broiler bone development and mineralization on d 0 and 21 post-hatch. *Poultry Science*, Vol. 93:1055-1058. <http://dx.doi.org/10.3382/ps.2013-03608>
- **Peebles, E. D., R. Pulikanti, W. Zhai, and P. D. Gerard.** 2014. Relationships of incubational hatching egg characteristics to posthatch body weight and processing yield in Ross × Ross 708 broilers. *Journal of Applied Poultry Research*. 23:34-40. <http://dx.doi.org/10.3382/japr.2013-00784>
- **Zhai, W., E. D. Peebles, L. Mejia, C. D. Zumwalt, and A. Corzo.** 2014. Effects of dietary amino acid density and metabolizable energy level on the growth and meat yield of summer-reared broilers. *Journal of Applied Poultry Research*. 23 :501–515 <http://dx.doi.org/10.3382/japr.2014-00961>
- **Wang*, X., E. D. Peebles, and W. Zhai.** 2014. Effects of protein source and nutrient density in the diets of male broilers from 8 to 21 days of age on their subsequent growth, blood constituents, and carcass compositions. *Poultry Science*. 93:1463-1474. <http://dx.doi.org/10.3382/ps.2013-03838>.
- **Bello, A., P. Y. Hester, P. D. Gerard, W. Zhai, and E. D. Peebles.** 2014. Effects of commercial in ovo injection of 25-hydroxycholecalciferol on bone development and mineralization in male and female broilers. *Poultry Science* 93:2734–2739. <http://dx.doi.org/10.3382/ps.2014-03981>
- **Nair, D.V., C.S. Sharma, R. Nannapaneni, B.S. Mahmoud, and A.S. Kiess.** Reduction of Salmonella on turkey breast cutlets by plant derived compounds. *Foodborne Pathogens and Disease* 11:981-987. http://online.liebertpub.com/doi/abs/10.1089/fpd.2014.1803?url_ver=Z39.88-2003&rfr_id=ori%3Arid%3Aacrossref.org&rfr_dat=cr_pub%3Dpubmed

2015 Papers and Abstracts

2015 International Poultry Scientific Forum and International Production and Processing Expo Abstracts: (www.southernpoultrysciencesociety.org)

- Comparative effects of in ovo versus subcutaneous vaccination and pre-placement holding time on post-hatch broiler performance **E. David Peebles**, Taylor Barbosa, Timothy Cummings, John Dickson, **Sharon Womack**
- Use of histomorphometric area measurements for determination of intestinal villus/crypt ratios in broiler chickens: comparisons to routine linear methods and documentation of age-associated intestinal changes Floyd Wilson, Timothy Cummings, Taylor Barbosa, Chris Williams, John Dickson, Amanda Lawrence, **David Peebles**,
- Effects of the in ovo injection of organic zinc, manganese, and copper on the hatchability and bone parameters of broiler hatchlings Tiago Oliveira, Elizabeth Kim, Anna Caixeta, **E. David Peebles**
- Parental sex effect of parthenogenesis on hatchability of Chinese Painted quail **Holly Parker, Aaron Kiess, Chris McDaniel**
- Nutrient analysis of Mississippi broiler litter **Tom Tabler**, Ashli Brown, Gale Hagood, **Morgan Farnell, Chris McDaniel**, Jon Kilgore
- Effect of pullet limestone particle size on performance and bone health of pullets and laying hens raised in deep litter systems Pamela Eusebio-Balcazar, Sheila Purdum, Kathryn Hanford, **Mary Beck**
- Effects of in ovo injection of Inovocox EM1 vaccine and turn-out times on broiler performance **Adebayo Sokale, E. David Peebles**, Christopher Williams.

- Both *Bifidobacterium animalis* and its metabolites impact broiler breeder sperm motility **Melissa Triplett, Christopher McDaniel, Aaron Kiess.**
- Effect of sub-lethal oxidative stress of chlorine on biofilm forming ability of various *Salmonella* strains **Janak Dhakal, Chander Sharma**
- Liquid application method (LAM), feed form (FF) and feed pan location effects on D28-56 Ross x Ross 708 male broiler performance and processing characteristics **Robert B Sellers, John Boney, Chris McDaniel, Joseph S. Moritz, Kelley G. S. Wamsley**
 - **Ben Sellers won a graduate student certificate of excellence award for this presentation and received a cash award of \$500.**
- Effects of varying coccidiosis control and inclusions of algal beta-1,3-glucan (ABG) on D0-59 Ross x Ross 708 male broiler performance and processing **Cameron Cardenas, Wei Zhai, Robert Levine, Kelley Wamsley**
- Effects of commercially available antibiotic alternatives on 0 to 41 d male broiler chicken intestinal morphology and microflora **Xi Wang, Yuhua Farnell, Aaron Kiess, Kelley Wamsley, Wei Zhai**
- Relationship among feed form, behavior and welfare, and growth performance using male broilers **Xianjiang Wen, A.F. Liu, M.M. Beck, K.G.S. Wamsley, B. Sellers, X. Wang, W. Zhai**
- Strain and feed form (FF) effects on D28-49 male broiler performance and D43 and 50 processing characteristics **Robert B. Sellers, Paul B. Tillman, Joseph S. Moritz, Kelley G. S. Wamsley**
- Parental sex effect of parthenogenesis on egg weight in mated Chinese Painted quail. **Courtney Wade, Holly Parker, Aaron Kiess, Chris McDaniel**
- Impact of oral *Lactobacillus* gavage on seminal and cloacal *Lactobacillus* concentrations in roosters **Juliana Hirai, Melissa Triplett, Christopher McDaniel, Aaron Kiess**
- Reduction of *Salmonella* on chicken skin by the sequential application of chemical treatments and *Salmonella* lytic bacteriophage preparation **Anuraj Theradiyil Sukumaran*GS, Chander Shekhar Sharma**
- Relationships of eggshell, air cell, and cloacal temperatures of embryonated broiler hatching eggs during incubation. **Opeyemi Olojede, Katie Collins, Sharon Womack, Patrick Gerard, David Peebles**
- Effect of in ovo injection of F-strain *Mycoplasma gallisepticum* on the survivability of commercial layer embryos and chicks. **Katie Collins, Scott Branton, Jeff Evans, Sharon Womack, E. David Peebles**
- Commercially available mastic gum derived feed additive effects on zone of inhibition testing and phosphorus sparing using D3-21 male chick performance/tibia ash. **Jared Chandler, Aaron Kiess, Kelley Wamsley**
 - **Jared Chandler won a Don R. Sloan Undergraduate Research Award for this presentation and received a cash award of \$500.**
- Effects of commercially available *Bacillus subtilis* or *B. licheniformis*-based probiotics used alone or in combination with an antibiotic on 0-64 d broiler performance and processing. **Priscila Zorzetto, Wei Zhai, David Harrington, Aaron Kiess, Kelley Wamsley.**
- The January issue (Vol. 10, Number 4) of *Landmarks Magazine*, published by the Division of Agriculture, Forestry and Vet Medicine, contains two articles about the Poultry Science Department at <http://www.dafvm.msstate.edu/landmarks/15/jan2015.pdf> :
 - P. 14, "Poultry Teaching, Research, Extension, and Diagnostics The MSU Department of Poultry Science supports Mississippi's top agricultural commodity."
 - P. 18, "Parchman Poultry MSU Extension poultry specialists are addressing a growing fly and mosquito problem at the Mississippi State Penitentiary."
- **Tom Tabler, Ashli Brown, Gale Hagood, Morgan Farnell, Chris McDaniel, and Jon Kilgore, "Nutrient Content in Mississippi Broiler Litter"** (study funded by the Mississippi Farm Bureau Federation); <http://msucare.com/pubs/publications/p2878.pdf>.
- **Wang*, X., E. D. Peebles, T. W. Morgan, R. L. Harkess, and W. Zhai. 2015.**

- Protein source and nutrient density in the diets of male broilers from 8 to 21 d of age: Effects on small intestine morphology. *Poultry Science* 94:61–67.
<http://dx.doi.org/10.3382/ps/peu019> .
- **Tom Tabler**, Kelly Loftin, **Morgan Farnell**, **Jessica Wells**, and Haitham Yakout, “Bed Bugs: Difficult Pests to Control in Poultry Breeder Flocks,”
<http://msucares.com/pubs/publications/p2881.pdf>

USDA-ARS

- Olanrewaju, H. A., J. L. Purswell, W. R. Maslin, S. D. Collier, and S. L. Branton. 2015. Effects of color temperatures (kelvin) of LED bulbs on growth performance, carcass characteristics, and ocular development indices of broilers grown to heavy weights. *Poultry Science* 94:338-344.
<http://dx.doi.org/10.3382/ps/peu082>
- 2015 *IPSF Abstracts*: (www.southernpoultrysciencesociety.org)
 - Effects of light sources and intensity on growth performance and carcass characteristics of heavy broilers at 56 days of age. H. A. Olanrewaju, J. L. Purswell, S. D. Collier, and S. L. Branton.
 - E.J. Kim, J.L. Purswell, and S.L. Branton. 2015. Optimal inclusion rates of low-fat distiller’s dried grains with solubles (LF-DDGS) in male broilers aged 28 to 42 d of age