



*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 over the last two weeks:**
  - **Dr. Tabler** visited:
    - Peco farms at Bay Springs
    - Sanderson farms at Collins to assess LED lights and dimmer capabilities
    - Peco farms at Sebastopol for pullet checks
  - **Dr. Tabler** and **Mr. Young** visited Mar-Jac breeder farms and new facilities at Waynesboro.
- Taylorsville Poultry Supply visited the MSU Poultry Research Center to assess a remodel of the turkey facility for additional nutrition research.
- Dr. Jeff Silverstein, Associate Area Director for the Southeast Region of USDA-ARS, Stoneville, toured the Incubation Physiology Center with **Dr. Peebles**, July 17.

***Recent Publication:***

- **Tom Tabler, Morgan Farnell and Jessica Wells**, "LED Bulbs: Much to Offer the Poultry Industry," <http://msucares.com/pubs/publications/p2894.pdf>

• **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&rft\\_id=ori%3Arid%3Acrossref.org&rft\\_dat=cr\\_pub%3Dpubmed](http://online.liebertpub.com/doi/abs/10.1089/fpd.2014.1803?url_ver=Z39.88-2003&rft_id=ori%3Arid%3Acrossref.org&rft_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://msucares.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>
- J. Pieniazek<sup>1</sup>, R. Stipanovic<sup>2</sup>, L. Puckhaber<sup>2</sup>, T. Wedegaertner<sup>3</sup>, **M. Farnell**<sup>4</sup>, J. Byrd<sup>2</sup> and J. Lee<sup>1</sup>, 2015, “Pressed, dehulled cottonseed meal: Effect on growth performance in broiler diets and retention of gossypol in tissues,” *European Poult. Sci.*, 79:1-9; <http://dx.DOI:10.1399/eps.2015.81>
- **Dr. Tabler** has revised the Extension publication, “Poultry Disease Diagnosis,” that can be found at <http://msucares.com/pubs/publications/p1276.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.southernpoulttrysciencesociety.org](http://www.southernpoulttrysciencesociety.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
- H.A. Olanrewaju, J.L. Purswell, S.D. Collier and S.L. Branton, 2015. Effects of light sources and intensity on blood physiological variables of broilers grown to heavy weights. Abstract published in 2015 Federation of American Societies for Experimental Biology. [www.fasbj.org/29\(4\):787.1.2015](http://www.fasbj.org/29(4):787.1.2015).
- Olanrewaju, H. A., W. W. Miller, W. R. Maslin, S. D. Collier, J. L. Purswell, and S. L. Branton. 2015. Influence of photoperiod, light intensity and their interaction on health indices of modern broilers grown to heavy weights. *Inter. J. Poult. Sci.* 14: 183-190. <http://www.pjbs.org/ijps/current.htm>