2019 INTERNATIONAL POULTRY SCIENTIFIC FORUM
FEBRUARY 11 – 12
## Program Summary

### MONDAY SESSIONS  
**FEBRUARY 11**

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<td>B-311</td>
<td>7:30 a.m. – 10:30 a.m.</td>
<td>(Dr. Drew Benson)</td>
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<td>B-311</td>
<td>10:45 a.m. – Noon</td>
<td>(Dr. Dianna Bourassa)</td>
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<td>B-311</td>
<td>1:00 p.m. – 3:15 p.m.</td>
<td>(Dr. Amit Morey)</td>
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<td>B-312</td>
<td>7:30 a.m. – 10:15 a.m.</td>
<td>(Dr. Laura Chen)</td>
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<td>(Dr. Rüdiger Hauck)</td>
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<td>B-314</td>
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<td>(Dr. Sheila Purdum, Dr. Aaron Kiess)</td>
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<td>Feed Additives</td>
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<td>SCAD Business Meeting</td>
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<td>SPSS Business Meeting</td>
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Officers of the SPSS 2018-2019

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Dr. April Levy, DSM Nutritional Products

First VP  
Dr. Brian Fairchild, UGA

Second VP  
Dr. Miguel Barrios, Synexis Biodefense

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Poultry Science Department  
Mississippi State University  
Mail Stop 9665  
Mississippi State, MS 39762

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University of Georgia  
953 College Station Road  
Athens, Georgia 30602-4875

Phone:  
706.542.5475

Email:  
mjackwoo@uga.edu
Physiology/Endocrinology

Moderator: Dr. Drew Benson, NCSU
Room Number: B311
Monday, February 11, 2019

7:30 a.m. M1
Broiler breeder hen zona pellucida B2 protein expression in the granulosa cell and perivitelline layer
Josh Steed*, Andrew Benson1, R Bramwell2, Adam Davis1 1The University of Georgia; 2University of Arkansas

7:45 a.m. M2
Gut health priming from breeders to chicks – Evidence of direct pathogen transfer and shared environments
Terry Parrott, Elizabeth Kim, Jordon Gruber* DuPont Animal Nutrition

8:00 a.m. M3
Bacillus subtilis 29784 prevents a pro-inflammatory response in an induced inflammation condition using the Caco-2 cells model
Damien Preveraud*, Lamya Rhayat*, Marc Maresca1, Erik Eckhardt2, Estelle Devillard1 Adisseo France SAS; 2Adisseo CERN; Aix Marseille University CNRS

8:15 a.m. M4
Reproductive toxicity of RoundUp® in broiler breeder roosters
Zachery Jarrell*, Muslah Ahammad, Andrew Benson University of Georgia

8:30 a.m. M5
Effect of amino acid levels during broiler breeder pullet rearing on: 2. Egg weight and characteristics from 26 to 34 wk of age
Yilmar Matta*, Edgar Oviedo-Rondon1, Andres Ortiz1, Ivan Opsina, Hernan Cordova1, Lina Penuela1, Miguel Chico, Viviana San Martin1, Justina Calda1 North Carolina State University; 2Universidad del Tolima; 3Cobb Vantress Inc.

8:45 a.m. M6
Incubational and embryonic temperature relationships in Ross 708 broiler hatching eggs
Lauren Lindsay*, Katie Elliott1, Seyed Fatemi1, Peter Ishola1, Patrick Gerard2, Edgar Peebles1 1Mississippi State University; 2Clemson University

9:00 a.m. M7
An immunostimulatory injection on day of hatch leads to altered cellular signaling later in the grow out period in modern broiler birds
Bridget Aylward*, Casey Johnson1, Iyana Admasu1, Famatta Perry1, Dr. Rose Whelan2, Dr. Ryan Arsenault1 Department of Animal and Food Sciences, University of Delaware; 2Evonik Nutrition & Care GmbH

9:15 a.m. M8
Effect of dietary protein source and litter condition on macrophage and mitotically active cell densities in the duodenum of broiler chickens at 3 days of age
A. Jake Keel*, Allan Calderon, Oscar Tejeda, Jessica Starkey, Charles Starkey Auburn University

9:30 a.m. M9
Effect of different basal culture media and sera combinations on primary broiler chicken muscle satellite cell proliferation and heterogeneity
Joshua Flees*, Cierla McGuire Sams, Jessica Starkey Auburn University

9:45 a.m. M10
In ovo injection of probiotic bacteria and its influence on the broiler immune system during a coccidia challenge
Chrysto Beck*, Christopher McDaniel, Kelley Wamsley2, G. Pharr2, Aaron Kiess1 Department of Poultry Science, Mississippi State University; 2Department of Basic Sciences, Mississippi State University College of Veterinary Medicine

10:00 a.m. M11
Role of the HPT axis in the regulation of the preovulatory surge in low and high egg producing turkey hens
Kristen Brady*, Julie Long1, Tom Porter1 University of Maryland; 2USDA ARS Beltsville Agricultural Research Center
10:15 a.m. M12
Use of shape index to determine differences of eggs from Heritage breeds vs. commercial white egg strain
Lauren Nolan, Anthony Pescatore, Micheal Pescatore University of Kentucky
10:30 a.m. Break
Processing and Products I
Moderator: Dr. Dianna Bourassa, Auburn
Room Number: B311
Monday, February 11, 2019

10:45 a.m. M13
Enhanced statistical process control systems for monitoring and predicting live operations and plant performance and pathogens
Isaac Duerr* Smart Data Science Solutions

11:00 a.m. M14
Impact of postmortem holding temperature on feather retention force and broiler carcass microbiology
Dianna Bourassa*, Caitlin Harris2,3, L. Bartenfeld2, Stephanie Richter4, Wayne Daley4, R Buhr2
1Auburn University; 2US National Poultry Research Center, USDA-ARS; 3University of Georgia; 4Georgia Tech Research Institute

11:15 a.m. M15
Whole Carcass Salt-Uptake Tendencies during Immersion Chilling
Stephanie Richter*, Daniel Sabo, Comas Haynes Georgia Tech Research Institute

11:30 a.m. M16
Poultry parts cooling
Aklilu G Giorges*, John Pierson Georgia Institute of Technology

11:45 a.m. M17
Differential effects of formaldehyde, formic acid, and mono-glycerides on carcass and meat quality traits of Cobb 700 broilers
Joshua Jendza*, Kristina Feye2, Juan Caldas-Cueva2, Barbara Mallmann2, Dana Dittoe2, Casey Owens2, Mike Kidd2, Steve Ricke2 1BASF Corporation; 2University of Arkansas

12:00 p.m. Lunch
Processing and Products II
Moderator: Dr. Amit Morey, Auburn
Room Number: B311
Monday, February 11, 2019
1:00 p.m. M18
Survey of egg quality in commercially available table eggs
Crienio Hisasaga*UG, Sara Shinn, Katy Tarrant Fresno State

1:15 p.m. M19
Effect of red seaweed (Chondrus crispus) on laying hen eggshell thickness
Cassie Stupart*GS, Bruce Rathgeber, Janice MacIsaac Dalhousie University

1:30 p.m. M20
Assessment of peroxyacetic acid as a post-defeathering antimicrobial intervention during broiler processing
Ella Lawley*UG, Dianna Bourassa Auburn University

1:45 p.m. M21
A cold water detergent combined with an organic acid carcass dip reduces microbial loads on post-harvested broiler carcasses
Grayson Walker*UG, Dianna Bourassa2, Rasha Qudsieh1, Brittany Wall1, Matthew Livingston1
1 North Carolina State University; 2 Auburn University

2:00 p.m. M22
NIRS analysis to assess the nutritional value of two corn hybrids dried at different temperatures: a comparative analysis between laboratories
Hernan Cordova-Noboa*GS, Edgar Oviedo-Rondon, Ivan Ospina-Rojas, Viviana San Martin, Miguel Chico, Andres Ortiz-Diaz, Yilmaz Matta-Lozano, Lena Peñuela-Sierra Prestage Department of Poultry Science North Carolina State University

2:15 p.m. M23
Effect of alternative lighting program and low protein starter feed on growth and meat quality parameters.
Brittany Wall*UG, Matthew Livingston, Daniel Adams, Kimberly Livingston North Carolina State University

2:30 p.m. M24
Evaluating the effects of Functional Ice (FICE) on shelf life and quality of raw poultry meat
Jasmine Kataria*UG, Avery Smith, Laura Garner, Amit Morey Auburn University

2:45 p.m. M25
Woody breast incidence in commercial broiler strains at various ages
Barbara A. Mallmann*UG, Ashunti Jackson2, Andy Mauroumoustakos2, Casey Owens1 1 University of Arkansas; 2 Cobb-Vantress

3:00 p.m. M26
Influence of utilizing breast meat afflicted with woody breast myopathy on sausage textural properties
Max Rigdon*UG, Alexander Stelzleni1, Brian Bowker2, Hong Zhuang2, Dean Pringle1, Harshavardhan Thippareddi1 University of Georgia; 2 USDA-ARS

3:30 p.m. USPOULTRY Presentation — Room Number B313
4:00 p.m. - 6:00 p.m. Poster Reception — Room Number B313 Foyer
Pathology
Moderator: Dr. Laura Chen, NCSU
Room Number: B312
Monday, February 11, 2019
7:30 a.m. M27
Tannins to control Salmonella in poultry
Leandro Redondo1, Natalia Casanova1, Enzo Redondo1, Patricia Joaquim1, Johana Dominguez1,2, Mariano Fernandez Miyakawa1,2, Pablo Chacana1,2,1 Instituto Nacional de Tecnología Agropecuaria,2 Consejo Nacional de Investigaciones Científicas y Técnicas
7:45 a.m. M28
Survey of Mycoplasma synoviae prevalence and economic impact in the Middle East and North Africa area
Husam Bakri*, Entisar Al-Hallaq Vaxxinova International BV
8:00 a.m. M29
The effects of in ovo administration of 6/85 Mycoplasma gallisepticum vaccine on layer chicken embryo hatchability and early post-hatch performance
Abdulmohsen Algonthi*GS, Scott Branton, Jeff Evans, Katie Elliott, David Peeples Mississippi State University
8:15 a.m. M30
Examining intestinal microenvironments using immunohistochemistry to evaluate the chicken immune response to Eimeria infection
Maria Arendt*GS, Jonathan Elissa, Emily Michael, Laura Knoll, Mark Cook University of Wisconsin - Madison
8:30 a.m. M31
Heat stress causes inhibition of Eimeria replication in broiler chickens
Gustavo Schneiders*GS, James Foutz, Albertou Foutz, Romdhane Reyka, Samuel Aggrey University of Georgia
8:45 a.m. M32
Characterization of growth performance changes and lesion development in commercial toms infected with intestinal parasite Tetratrichomonas gallinarum
Kelly Grace Keen*GS, Robert Beckstead North Carolina State University
9:00 a.m. M33
Genetic resistance to blackhead disease in commercial turkeys
Alessandro Ferrarini*GS, Robert Beckstead NORTH CAROLINA STATE UNIVERSITY
9:15 a.m. M34
Utilization of sub-lethal bacteriostatic tetracycline co-administration for development of a novel in ovo challenge model for virulent Escherichia coli strains
Danielle Graham*GS, Callie Selby, Kyle Teague, Lucas Graham, Christine Vuong, Julian Latorre, Guillermo Tellez, Billy Hargis University of Arkansas
9:30 a.m. M35
Supplementation of a probiotic alone or in combination with prebiotics and phytogenics alleviates the negative impact of subclinical necrotic enteritis in broiler chickens
Nima Khodambashi Emami*1, Emily Kimminau2, Ali Calik1, Mallory White1, Aaron Oxendine1, RamDalloul1 Avian Immunobiology Laboratory, Department of Animal and Poultry Sciences, Virginia Tech; Huvepharma, Inc., 525 Westpark Drive
9:45 a.m. M36
Stimulation of endogenous butyrate producers in the intestinal tract of broilers by in ovo exposure inoculation with lactic acid bacteria
Denise Russi-Rodrigues*, Kimberly Wilson, Whitney Briggs, Audrey Duff, Kaylin Chasser, Lisa Bielke Ohio State University
10:00 a.m. M37
Effects of dietary supplementation of OPTIGUT on the performance and intestinal microbiota in a necrotic enteritis challenge model in broiler chicks
Vasileios Tsiouris*, Ioanna Georgopoulou1, Tilemachos Mantzios1, Kostas Kiskinis1, Angelo Lauwaerts2, Giorgos Filiousi1, Giorgos Papadopoulos1, Paschalis Fortomaris1 Aristotle University; Proviran Industries nv
10:15 a.m. Break

SCAD I

Moderator: Dr. Rüdiger Hauck, Auburn
Room Number: B312
Monday, February 11, 2019

10:30 a.m. M38
Comparison of the impact of monobutyrin, other glycerides, and glycerol (SiloHealth 104), sodium formate (Amasil NA) and bacitracin methylene disalicylate (BMD) on intestinal and processed parts bacteria count when fed to broiler chickens challenged with mild coccidia and clostridium perfringens (Cp).
Mike Coelho*,1, Peter Ader2 1 BASF Corporation; 2 BASF SE

10:45 a.m. M39
Field observations on Activo Liquid as an intervention for Clostridial Dermatitis in Turkeys
Mark Blakley*, John Smalley, Rafael Cabrera EW Nutrition, USA

11:00 a.m. M40
Characterizing and assessing the safety and immunogenicity of Chitosan and Polyanhydride nanoparticle vaccines loaded with Clostridium perfringens antigens.
Gabriel Akerele*,1, Renukaradhya Gourapura2, Ramesh Selvaraj2 1 University of Georgia; 2 Ohio State University

11:15 a.m. M41
Novel subunit vaccine targeting Clostridium perfringens mucinases for control of necrotic enteritis in broilers
Audrey Duff*,1, Kendal Searer1, Whitney Briggs1, Kimberly Wilson1, Christine Vuong2, Billy Hargis2, Luc Berghman3, Lisa Bielke1 1 Ohio State University; 2 University of Arkansas; 3 Texas A&M University

11:30 a.m. M42
Effects of glycinated zinc on host immune response to necrotic enteritis in broilers
Theros Ng*,1, Ramesh Selvaraj Department of Poultry Science, University of Georgia

11:45 a.m. M43
Necrotic enteritis predisposed by coccidiosis: efficacy of challenge models in broilers
Shelby Curry*, G. Raj Murugesan, Chasity Pender BIOMIN America, Inc

12:00 p.m. Lunch
SCAD II
Moderator: Dr. Ha-Jung Roh, CEVA
Room Number: B312
Monday, February 11, 2019
1:00 p.m. M44
Evaluating effectiveness of live Salmonella vaccination of broilers from day of age to the carcass rinse
Charles Hofacre*1, Roy Berghaus2, Doug Cosby3, Mark Barrang4, Arthur Hinton, Jr.2, Kalen Cookson4, Manuel DaCosta5
1 Southern Poultry Research Group; 2 University of Georgia; 3 USDA-ARS; 4 Zoetis Global Poultry
1:15 p.m. M45
Cross protection effects of live salmonella typhimurium vaccination against early and late Salmonella spp. challenges
Manuel Da Costa*, Kalen Cookson, Jean Sander, Andy McRee, Tak Niino, Jon Schaeffer, John Dickson Zoetis - U.S. Poultry
1:30 p.m. M46
Efficacy of chitosan based nanoparticle vaccine administration in broiler birds challenged with Salmonella enterica serovar enteritidis
Keila Acevedo-Villanueva*6, Renukaradhya Gourapura2, Ramesh Selvaraj1
1 University of Georgia; 2 The Ohio State University
1:45 p.m. M47
Mucosal immunity of the broiler chicken vaccinated with nanoparticle vaccine and challenged with Salmonella enterica Enteritidis
Bailey Lester*1, Ramesh Selvaraj1, Renukaradhya Gourapura2
1 Department of Poultry Science, University of Georgia; 2 Food Animal Research Program, OARDC, The Ohio State University
2:00 p.m. M48
Evaluation of a Subunit Salmonella Vaccine to Control and Reduce the Contamination of Salmonella Heidelberg in Cecae of Broiler Chickens
Igor Praxedes-Campagnoni*1,2, Fabrizio Matte2, Fábio Gazoni2, Thalita Malta2, Emanuel Gumina3, Sherry Layton4
1 UDESC - Universidade do Estado de Santa Catarina; 2 Vetanco do Brasil; 3 Vetanco SA; 4 BV Science
2:15 p.m. M49
In vitro and in vivo assessment of probiotics as an on-farm control strategy against Campylobacter jejuni in broilers
Mohamad Mortada*1, Revathi Shanmugasundaram1, G Raj Murugesan1, Ramesh Selvaraj1
1 The University of Georgia; 2 BIOMIN America Inc.
2:30 p.m. M50
Validation of ATP bioluminescence swabs to determine microbial loads in a controlled laboratory setting
Julia McElreath*1, Brian Jordan1, Miguel Barrios3
1 University of Georgia; 2 Synexis Biodefense Systems
2:45 p.m. M51
Impact of dietary chitosan and coccidia challenge in broiler chickens
Saheed Osho*1, Olayiwola Adeola
1 PURDUE UNIVERSITY
3:00 p.m. M52
Effects of glutamine supplementation on broiler performance and intestinal immune parameters during an experimental coccidiosis infection
Jarred Oxford*1, Ramesh Selvaraj
1 University of Georgia
3:15 p.m. M53
Next-generation Illumina sequencing for improved speciation of common Eimeria species infecting chickens
Grace Albanese*1, Dong-Hun Lee2, Brian Jordan1
1 University of Georgia; 2 University of Connecticut
3:30 p.m. USPOULTRY Presentation — Room Number B313
4:00 p.m. - 6:00 p.m. Poster Reception — Room Number B313 Foyer
Black Soldier Fly larvae oil and meal as dietary ingredients for laying hens
Luke Trimble*UG, Arianna Ferguson, Heather Scobba, Paul Patterson, Nuket Acar
The Pennsylvania State University
Evaluation of differential scanning calorimetry to assess starch gelatinization of multi-component feed processed with different conditioner temperatures and Hygieniser retention times
Lindsey Spencer*UG, Luis Avila, Allan Calderon, Danny Patino, Wilmer Pacheco, Emefa Monu, Oladiran Fasina, Charles Starkey
Auburn University

Determining the influence of diet formulation, particle size, and analytical method on the crude protein predictability of Near Infrared Reflectance Spectroscopy
Caitlin Evans*UG, Nana Frempong1, Chad Paulk1, Thomas Nortey2, Charles Stark1 1 Kansas State University; 2 University of Ghana

Effects of pellet diameter and crumble size on the growth performance and relative gizzard weight of broilers
Frank Idan*UG, Thomas Nortey2, Chad Paulk1, Scott Beyer1, Chance Fiehler1, Courtney Truelock1, Christopher Delfelder1, Charles Stark1 1 Kansas State University; 2 University of Ghana

Determining the average particle size (APS) consumed between two broiler strains (S) receiving diets varying in feed form (FF) and feed quality (FQ) and the subsequent impact on starter performance (0-6 and 0-18 d)
Andrew Brown*UG, JT Pope1, Joshua Jendza2, Adam Fahrenholz1 1 North Carolina State University; 2 BASF

Effects of corn particle size and formic acid on productive and processing performance of broilers
Andrea Rubio*UG, JT Pope1, Joshua Jendza2, Adam Fahrenholz1 1 North Carolina State University; 2 BASF

Influence of coccidiosis vaccination on nutrient digestibility of feed ingredients in broilers
Alyson Gautier*UG, Samuel Rochell University of Arkansas

Supplementation of betaine in diets adequate in choline and methionine improves breast meat yield of broilers under varying experimental conditions
Kenia Mitre Herrera*UG, Brooke Bodle1, Franco Mussini2, Chance Williams3, Samuel Rochell1 1 University of Arkansas; 2 DuPont; 3 Wayne Farms LLC

Effects of hatch basket feed and water access and hatch window on broiler performance and processing yield
Joshua Deines*UG, R Bramwell2, Doug Yoho1, Samuel Rochell1 1 University of Arkansas; 2 Jamesway Incubator Company

10:00 a.m. Break
Metabolism and Nutrition II – General Nutrition/Enzymes/Feed Additives

Moderator: Dr. Woo Kim, UGA
Room Number: B313
Monday, February 11, 2019

10:15 a.m. M64
Role of Biocholine on growth performance, hepatic gene expression, and adiponectin in broilers
Dima White* GS, Woo Kim1, Shivi Maini2 1University of Georgia; 2Indian Herbs Specialties Ltd.

10:30 a.m. M65
Immunometabolic influences of Salmonella enteritidis and Salmonella heidelberg in chicken macrophages
Famatta Perry*GS, Ryan Arsenault, Casey Johnson University of Delaware

10:45 a.m. M66
Effect of broiler breeder age and different dietary oil sources on gene expression and egg fatty acid profile
Antonio Beitia* GS, Justina Caldas1, Nirun Boonsinchar1, Katie Hilton1, Pramir Maharjan1, Nawin Suesuttajit1, Garrett Mullenix1, Michael Schlumbohm1, Judith England1, Craig Coon1 1University of Arkansas; 2Cobb-Vantress; 3Charoen Pokphand Group

11:00 a.m. M67
Effects of inositol and gradient phytase supplementation on growth performance and meat yield of broilers from 1 to 41 days of age
Ruben Kriseldi* GS, Carrie Walk2, Mike Bedford2, William Dozier, III 1Auburn University; 2AB Vista

11:15 a.m. M68
Impact of calcium to available phosphorus ratio and phytase calcium matrix values on broiler live performance
Shuja Majeed* GS, Rasha Qudsieh1, Jon Broomhead2, Mike Lanahan2, John Brake(†)1 1North Carolina State University; 2Agrivida

11:30 a.m. M69
Effect of a combination of phytase and multi-carbohydrase on broiler growth performance and bone mineralization
Jinquan Wang* GS, Robert Patterson2, Woo Kim1 1University of Georgia; 2Canadian Bio-system

11:45 a.m. M70
Effects of limestone particle size, limestone source, and phytase on Ca and P digestibility in broilers
Stuart Taylor*1,3,05, Micaela Sinclair Black1, Roselina Angel3, Christine Jansen van Rensburg2, Peter Plumstead1 1Chemunique PTY LTD; 2University of Maryland; 2University of Pretoria

12:00 p.m. Lunch
Metabolism and Nutrition III — Enzymes/Feed Additives
Moderator: Dr. John Boney, Penn State
Room Number: B313
Monday, February 11, 2019

1:00 p.m. M71
Effects of superdosing phytase and use of carbohydrase enzymes in low energy diets on 56 day male broiler performance and processing
Courtney Ennis*1GS, Mark Jackson2, Omar Gutierrez3, Staci Cantley4, Kelley Wamsley1 1Mississippi State University; 2Huvepharma, Inc.

1:15 p.m. M72
Effects of dietary lysine and exogenous protease inclusion on turkey growth performance.
Courtney Truelock*1GS, Christopher Delfelder, Miguel Barrion2, Charles Stark1, R Beyer, John Gonzalez, Chad Paulk1 1Kansas State University; 2Jefo

1:30 p.m. M73
Effects of xylanase and xylo-oligosaccharide application in corn-soy diets on performance of male broilers fed diets with two different corn sources
Kyle Brown*1GS, Austin Jasek2, Gemma Gonzalez-Ortiz2, Craig Wyatt1, Tri Duong1, Jason Lee1 1Texas A&M University; 2AB Vista; 3AB Vista NAM

1:45 p.m. M74
Administration of refined functional carbohydrate with yeast culture improves growth performance and reduces pathogen colonization in broiler chickens
Lindy Froebel*1GS, Sangita Jakular2, Theresia Lavergne2, Jason Lee1, Tri Duong1 1Department of Poultry Science, Texas A&M University; 2Arm and Hammer Animal and Food Production

2:00 p.m. M75
Effects of the combination of mannan-oligosaccharides and β-glucan on growth performance, intestinal morphology and immune gene expression in broilers
Po-Yun Teng1*GS, Roshan Adhikari2, Woo Kim1 1University of Georgia; 2Kerry Inc.

2:15 p.m. M76
Pellet mill die feed retention and enzyme thermostability.
J. T. Pope1*GS, Joel McAtee2, Paul Sten2, Adam Fahrenholz1 1North Carolina State University; 2AB Vista

2:30 p.m. M77
Replacement of antibiotic growth promoters by a combination of eubiotics and an enzyme blend in broilers diets under commercial conditions.
Oscar Sanabria-Bernal1*GS, Carlos Lozano-Poveda2, Javier Bohórquez-Quevedo3, Douglas Korver1 1University Of Alberta; 2DSM Nutritional Products Colombia S.A; 3Avícola San Isidro S.A.

2:45 p.m. M78
The effect of dietary inclusions of guanidinoacetic acid on broiler performance and carcass yield
Nathaniel Barrett1*GS, Paul Patterson1, Fausto Solis2, John Boney1 1The Pennsylvania State University; 2Wenger Feeds

3:00 p.m. M79
Dietary methylsulfonylmethane supplementation and oxidative stress in broiler
Muhammad Shameer Abdul Rashheed1*GS, Maxi Oelschläger1, Brooke Smith1, Laura Bauer1, Rose Whelan1, Ryan Dilger1 1University of Illinois; 2Evonik Nutrition & Care GmbH

3:15 a.m. M80
The effect of exogenous enzyme supplementation on performance and AME in broiler chickens challenged with coccidiosis, 7- and 14-days post challenge
Andrew Dunaway1*GS, Sunday Adegbokun University of Kentucky

3:30 p.m. USPOULTRY Presentation — Room Number B313
4:00 p.m. - 6:00 p.m. Poster Reception — Room Number B313 Foyer
Metabolism and Nutrition IV – Vitamins/Minerals/Feed Additives
Moderator: Dr. Pratima Adhikari, MSSTATE
Room Number: B314
Monday, February 11, 2019
7:45 a.m. M81
Effect of feeding pronutrient (Alquernat Nebsui L) on hen day egg production, egg quality and small intestine histomorphology of laying hens.
Milan Sharma*1GS, Carlos Domenech2, Pratima Adhikari1 1Mississippi State University; 2Biovet S. A
8:00 a.m. M82
Effects of FortiShell® on performance and egg shell quality of Hy-Line W-36 laying hens under late egg production (46 to 70 weeks of age)
Kolby Foltz*1GS, Nicholas Evans2, Michael Persia1 1Virginia Tech; 2PMI Nutritional Additives
8:15 a.m. M83
Dietary supplementation of an antioxidant (Economase™) to ameliorate the effect of stressors on physiological parameters, intestinal morphology, intestinal integrity, and cellular immune response in broilers
Opeyemi Olojede*1GS, Sunday Adedokun1, Anthony Pescatore1, Tuoying Ao2 1University of Kentucky; 2Alltech Inc.
8:30 a.m. M84
Effects of riboflavin on growth performance, processing yield, and internal organ development of Ross 708 male broilers
Bo Zhang*1GS, Wei Zhai Mississippi State University
8:45 a.m. M85
Effects of the in ovo injection of vitamin D3 and 25-hydroxyvitamin D3 on immunity and small intestine morphology in broilers fed commercial or calcium and phosphorous-restricted diets
Saman Fatemi*1GS, Katie Elliot1, Abiodun Bello2, Bradley Turner1, Haijun Zhang1, Edgar Peebles1 Mississippi State University; 2University of Alberta; 3DSM
9:00 a.m. M86
Feed ingredient handling characteristic evaluation of lipid encapsulated versus non-encapsulated poultry vitamin and trace mineral premixes
Olivia Wedegaertner*1GS, Adam Fahrenholz1, Jean-Christophe Bodin2, Jean Fontaine2, Peter Ferket1 North Carolina State University; 2JEFO Nutrition, Inc
9:15 a.m. M87
Zinc requirements of broiler breeder hens
Elisa Francois*1GS, Sergio Vieira, Liris Kindlein, Andre Mayer, Eveline Berwanger, Thiago Noetzold UNIVERSIDADE FEDERAL DO RIO GRANDE DO SUL
9:30 a.m. M88
Effect of dietary supplementation of layer hens with a hydroxy-analogue of selenomethionine on performance and egg quality
Luis Avila*1GS, Diego Puron, Mario Sierra, L. Gabriela Aragon, Jessica Starkey, Charles Starkey Auburn University
9:45 a.m. Break
Metabolism and Nutrition V — Amino Acids
Moderator: Dr. Elijah Kiarie, U. of Guelph
Room Number: B314
Monday, February 11, 2019

10:00 a.m. M89
Amino acid digestibility of broilers fed diets varying in amino acid density and supplemental copper concentration from 1 to 14 days of age
Stephanie Philpot*1GS, Kurt Perryman2, William Dozier1 1Auburn University; 2Micronutrients USA, LLC

10:15 a.m. M90
Determination of the digestible valine to lysine ratio in broilers from 1 to 14 days of age
Tanner Wise*1GS, Paul Tillman2, Kevin Touchette3, William Dozier III1 1Auburn University; 2Poultry Technical Nutrition Services LLC; 3Ajinomoto Animal Nutrition North America Inc.

10:30 a.m. M91
Effect of amino acid levels during broiler breeder pullet rearing on: 1. Growth and development
Andres Ortiz*1GS, Edgar Oviedo-Rondon1, Ivan Ospina1, Hernan Cordova1, Viviana San Martin1, Camila Alfaro1, Gustavo Quintana1,2, Ivan Cardenas1,2, Miguel Chico1, Yilmar Matta1,2, Lina Penuela1,2, Justina Calda1,2Universidad del Tolima; 1North Carolina State University; 2Cobb-Vantress Inc.

10:45 a.m. M92
The effect of nutrient density on performance and processing yield in Cobb 700 mixed-sex broilers
Corey Johnson*1GS, Rocky Latham2, Rob Shirley1, Tri Duong1, Jason Lee1 1Poultry Science Department, Texas A&M Agrilife Research; 2Tyson Foods; 3Adisseo USA, Inc.

11:00 a.m. M93
Impact of feeding varying grower digestible lysine and energy levels to female Cobb MV × Cobb 500 broilers on 42-day growth performance and processing yield
Rosana Hirai*1GS, Leonel Mejia2, Cesar Cobo2, Justina Caldas2, Christopher McDaniel1, Kelley Wamsley1Mississippi State University; 2Cobb-Vantress

11:15 a.m. M94
Responses of Cobb 700 broiler chickens to eight levels of digestible lysine.
Leasea Butler*1, Andy Mauronoustakos1, Cody Keen2, Colin Sannes1, Justina Caldas2, Michael Kidd1, Sam Rochell2 2Cobb-Vantress, Inc.; 1University of Arkansas

11:30 a.m. M95
Responses of varying levels of DL-methionine and TSAA and their subsequent effects on [1-13C] methionine and [1-13C] cysteine oxidation
Jordan Weil*1GS, Pramir Maharjan1, Antonio Beitia1, Katie Hilton1, Nawin Suesutthajit1, Victor Naranjo2, Craig Coon1 1University of Arkansas; 2Evonik Nutrition & Care

11:45 a.m. M96
Evaluating the effects of isoleucine supplementation in low crude protein amino acid fortified diets on nitrogen retention, body composition and egg production in White Shaver hens 20-48 weeks of age
Ilona Parenteau*1GS, Marvin Stevenson2, Elijah Kiarie1 1University of Guelph; 2Halchemix Canada Inc.

12:00 p.m. Lunch
<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
<th>Presenters</th>
<th>Affiliations</th>
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<tr>
<td>1:00 p.m.</td>
<td>M97</td>
<td>Application of a high density distiller’s protein in diets for turkey poults 0-42 days of age; impact on performance and nitrogen retention</td>
<td>1. Peter Williams*1, Emily Burton2, Dawn Scholey2 1 Fluid Quip Process Technologies, LLC; 2 Nottingham Trent University</td>
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<td>1:15 p.m.</td>
<td>M98</td>
<td>Beneficial effects of different extracts of edible mushroom species on production performance of healthy and Eimeria infected commercial broiler birds</td>
<td>1. Muhammad Ullah*1, Masood Akhtar1, Mian Awais1, Muhammad Anwar1, Kashfa Khaliq2 1 Bahauddin Zakariya University; 2 Government College University</td>
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<tr>
<td>1:30 p.m.</td>
<td>M99</td>
<td>Effect of dried moringa oleifera leaves on growth and immunity of broilers</td>
<td>1. Anjum Khalique*, Kaleem Ul-Hassan, Talat Naseer University of Veterinary and Animal Sciences</td>
</tr>
<tr>
<td>1:45 p.m.</td>
<td>M100</td>
<td>Effect of feeding spray-dried plasma in the starter diet at different doses and duration in broilers undergoing a severe health challenge</td>
<td>1. Ricardo Gonzalez-Esquerra*1, Joy Campbell1, Javier Polo1, Vieira Sergio2, Liris Kindlein2, Andre Favero2 1 APC, Inc.; 2 Universidade Federal de Rio Grande do Sul</td>
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<td>2:00 p.m.</td>
<td>M101</td>
<td>Growth performance of commercial breed broilers raised on imported versus commercial feed in Nigeria – A preliminary study</td>
<td>1. Akinniyi Dare*1, Adelumola Oladeinde2 1 Obafemi Awolowo University, Ille-Ife; 2 USDA-ARS</td>
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<td>2:15 p.m.</td>
<td>M102</td>
<td>Evaluation of flowability characteristics of feed ingredients for poultry</td>
<td>1. Ahmet Pekel* 1 Istanbul University-Cerrahpasa</td>
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<td>2:30 p.m.</td>
<td>M103</td>
<td>Field observation: Urease activity (Delta pH Method) versus urease activity (European Method) determined on 45 commercial soybean meal samples and correlations with trypsin inhibitor contents</td>
<td>1. Nelson Ruiz*1, Fabiola de Belakázar2, Jorge Castillo3 1 Nelson Ruiz Nutrition, LLC; 2 Nutrianálisis Ltda.; 3 Castillo Consulting, Inc.</td>
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<td>2:45 p.m.</td>
<td>M104</td>
<td>Evaluation of the combined effect of probiotics and coccidia vaccine in coccidia-challenged broilers</td>
<td>1. Luis Valenzuela1, Eduardo Vicuna*1, Marc Pages2, Martina Dardi2 1 BIOMIN; 2 HIPRA</td>
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<td>3:00 p.m.</td>
<td>M105</td>
<td>The impact of mycotoxins (deoxynivalenol, fumonisin, and their combination) on performance in broiler chickens.</td>
<td>1. Jundi Liu*1, Barbara Doupovec2, Raj Murugesan2, Cristiano Bortoluzzi1, Ana Villegas1, Todd Applegate1 1 Department of Poultry Science, University of Georgia; 2 BIOMIN Research Center; 3 BIOMIN America Inc</td>
</tr>
<tr>
<td>3:15 p.m.</td>
<td>M106</td>
<td>Trends in mycotoxin contamination in the United States corn 2015-2018</td>
<td>1. G. Raj Murugesan*1, Erika Hendel1, Paige Gott1, Shelby Curry1, Ursula Hofstetter2 1 BIOMIN America, Inc.; 2 BIOMIN Holding GmbH</td>
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<td>3:30 p.m.</td>
<td>USPOULTRY Presentation – Room Number B313</td>
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<td>4:00 p.m.</td>
<td>- 6:00 p.m. Poster Reception – Room Number B313 Foyer</td>
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Evaluation of the combined effects of moderate house relative humidity and increased air movement on bird health and welfare in a commercial broiler house
Connie Mou*GS, Michael Czarick, Brian Fairchild University of Georgia
8:00 a.m. M108
Effects of dual warmth LED lights on broiler chicken performance
Douglas Aldridge*GS, Colin Scales, Michael Kidd University of Arkansas
8:15 a.m. M109
A new ventilation system to reduce temperature fluctuations in laying hen housing in continental climate
Yang Wang*GS, Weichao Zheng, Qin Tong, Baoming Li, Gang Chen China Agricultural University
8:30 a.m. M110
Growth performance of four lines of chicken provided light during incubation
Janessa Henry*GS, Bruce Rathgeber, Xujie Li, Janice MacIsaac Dalhousie University
8:45 a.m. M111
Impact of low protein starter feed and alternative lighting program on broiler performance parameters
Daniel Adams*GS, Matthew Livingston, Brittany Wall, Kimberly Livingston North Carolina State University
9:00 a.m. M112
Evaluation of timing of hatching egg sanitization using the combination of hydrogen peroxide and ultraviolet light
Karely Cantu*GS, Craig Coufal Texas A&M University
9:15 a.m. M113
Evaluation of dry hydrogen peroxide as a commercial hatchery sanitizer
Laura Oxford*GS, Julia McElreath1, Miguel Barrios2, Brian Jordan1, Jeanna Wilson1, Nelson Cox2
1University of Georgia; 2Synexis Biodefense Systems; 3USDA-ARS
9:30 a.m. M114
Impact of Every-day versus Skip-a-day feeding of broiler breeder pullets during rearing to compare intestinal development and overall performance
Kelly Sweeney*GS, Laura Oxford, Carla Aranibar, Woo Kim, Susan Williams, Jeanna Wilson University of Georgia
9:45 a.m. M115
Comparison of sites colonized in broilers through various routes when challenged with Salmonella Enteritidis at day 14
Lasheda Brooks*GS, James Krehling, Kaicie Chasteen, Brittany Singh, Kenneth Macklin Auburn University
10:00 a.m. Break
Environment Management II – Stress Response/Behavior
Moderator: Dr. Yang Zhao, MSSTATE
Room Number: B315
Monday, February 11, 2019

10:15 a.m. M116
Effects of Stocking Density and Antibiotic-free Diet on Feeding and Drinking Behaviors of Broilers
Guoming Li*1GS, Yang Zhao1, Joseph Purswell3, Daniel Chesser1, John Lowe1 1Mississippi State University; 2USDA ARS Poultry Research Unit

10:30 a.m. M117
EFFECT OF DIETARY CALCIUM TO NON-PHYTATE PHOSPHORUS RATIO ON GROWTH PERFORMANCE OF BROILERS RAISED UNDER LOW AND HIGH HEAT STRESS TROPICAL CONDITIONS
Lorena Ramos de Mejia*1GS, Jorge Camacho2, Humberto Ugalde3, Marlon Menjivar3, Emilio Curu3, Peter Ferket1 1North Carolina State University; 2Serv Stats Camacho & Fernandez; 3Cargill Protein Latin America

10:45 a.m. M118
Amino acid chelated trace minerals reduces the severity of muscle myopathy in heat-stressed broilers
Mikayla Baxter*, Sami Dridi, Elizabeth Greene, Juan David Latorre, Guillermo Tellez-Isaias, Casey Owens, Barbara Mallmann University of Arkansas

11:00 a.m. M119
Identification of stress related to feed restriction and the use of a probiotic to modulate breeder pullet stress.
Kristin Moncada*1GS, Reagan Leger1, Tara Price1, Sohini Bhatia1, Sean Davies2, Suresh Pillai1, Rosemary Wolzern1 1Texas A&M University; 2Vanderbilt University

11:15 a.m. M120
Antemortem detection of wooden breast in commercial broilers and association with mortality, “turtle birds”, and pulmonary disease
Sesny Gall*1, Hannah Sather1, Marion Suyemoto1, A. Sharpston2, Luke Borst1, H. Barnes1, Rocio Crespo1 1North Carolina State University; 2Perdue Farms

11:30 a.m. M121
Evaluation of electrocution, Koechner euthanasia device, Turkey euthanasia device, and carbon dioxide gas euthanasia methods on breeder Beltsville Small White turkeys
Richard Buhr*, Caitlin Harris1,2, Dianna Bourassa3, Leonie Jacobs1 USDA-ARS, USNPRC; 2The University of Georgia; 3Auburn University; 4Virginia Tech

11:45 a.m. M122
Broiler chicken euthanasia by cervical dislocation: manual versus mechanical methods
Leonie Jacobs*, Dianna Bourassa2, Caitlin Harris3,4, R. Jeff Buhr4 1Virginia Polytechnic Institute and State University; 2Auburn University; 3The University of Georgia; 4USDA-ARS, US National Poultry Research Center

12:00 p.m. Lunch
Environment Management III – Env. Factors/Bird Welfare
Moderator: Dr. Maja Makagon, UCDavis
Room Number: B315
Monday, February 11, 2019
1:00 p.m. M123
Succession of broiler gastrointestinal microbiota from in ovo to harvest.
Josh Rehberger, Sam Anderson, Rebecca Wujek, Eric Vang, Evan Hutchison, Jodi Delago*, Alexandra Smith, Tom Rehberger Arm and Hammer Animal and Food Production
1:15 p.m. M124
The effects of downtime on key chicken production parameters
Timothy Buisker*, Charles Corsiglia Smart Data Science Solutions; Foster Farms
1:30 p.m. M125
Effect of strain and stocking density on broiler conformation, performance, and welfare
Shawna Weimer*, Darrin Karcher, Marisa Erasmus Purdue University
1:45 p.m. M126
Performance evaluation of fan shades in reduction of light leakage and spatial variation of
illumination in commercial broiler houses
John Linhoss*, Joseph Purswell, John Lowe, Gary Chesser Mississippi State University
1:30 p.m. M124
Agricultural & Biological Engineering; Joseph Purswell
2:00 p.m. M127
Air velocity under heat stress affects heavy broiler live performance and breast meat yield
without changing meat quality or welfare parameters
Edgar Oviedo-Rondon, Hernan Cordova, Viviana San Martin, Gustavo Quintana, Camila
Alfaro, Ivan Cardenas, Ivan Ospina, Miguel Chico*, Bing Cheng, Yijia Zhao, Derek West,
Lingjuan Wang-Li North Carolina State University
2:15 p.m. M128
Effects of butyrate and botanical feed additives on the performance of broilers raised on used
pine shaving litter
Mike Persia*, Nisana Simon-Tov, Haitham Yakout Virginia Tech; Adisseo North America
2:30 p.m. M129
Using machine learning based approaches to explore predictions in poultry production
Tristan Bond1, Todd Kelman2, Roberto Carrasso1, Joseph Gendreau1, Nick Barbulesco1, Maurice
Pitesky1,2 AgriNerds; UC Davis School of Veterinary Medicine-Cooperative Extension
2:45 p.m. M130
ChickenBoy: a farmer assistance system for animal welfare and farm productivity
Heiner Lehr*, Jörg Hartung2, Johan van den Bosse1, Maurice Mergeay1, Daniel Rosés1
Faromatics; University of Veterinary Medicine Hannover
3:00 p.m. M131
Examination of the impact of range, cage-free, colony systems, and conventional cage
environments on the labor inputs committed to bird care for three brown egg layer strains
Kelly Brannan1, Teresa Herman1, Herbert Ledford1, Anthony Thomas2, Lisa Wilson1, Kenneth
Anderson1,2 NC Dept of Agriculture and Consumer Services, Piedmont Research Station; North
Carolina State University, Prestage Dept of Poultry Science
3:15 p.m. M132
Behavior of laying hens reared in cage versus aviary pullet systems
Maja Makagon*, Allison Pullin, Mieko Temple1, Darin Bennett2, Richard Blatchford1
University of California, Davis; California Polytechnic State University
3:30 p.m. USPOULTRY Presentation — Room Number B313
4:00 p.m. - 6:00 p.m. Poster Reception — Room Number B313 Foyer
Effect of in-feed supplementation of iron amino acid complex and iron sulfate on ascites mortality and blood indicators in broilers reared at high altitude.

Miguel Forat1, Manuel Guad2, Marco Rebollo2, Duarte Neves2, Leonardo Linares2; Instituto Internacional de Investigacion Animal; Zinpro Corporation

Dietary iron requirements for broilers fed different mineral sources

Helvio Ferreira Júnior*1, Bruno de Carvalho1, Pedro Arnaut1, Carolaine Ferreira1, Filipe Monteiro1, Raúlly Silva1, James Pettigrew2, Horacio Rostagno1, Melissa Hannas1; Universidade Federal de Viçosa; Alltech

The broiler breeder antioxidant vitamin status and impact on subsequent broiler performance

Frank Parks*, mike coelho, Robert Jones; BASF Corporation

The broiler breeder antioxidant vitamin status and impact on subsequent broiler performance

Frank Parks*, mike coelho, Robert Jones; BASF Corporation

Improved growth performance response to hydroxychloride Zn and Cu partially driven by reduction in oxidative stress during growth

Oluyinka Olukosi1, Sandra van Kuijk2, Yanning Han2; University of Georgia; Trouv Nutrition R & D

Physicochemical properties of ZnO correlated to their bioavailability in broilers

Denise Cardoso1, Denise Cardoso2, Ian Cockshott*3, Nathalie Meme2, Yves Chevalier1, Agnes Narcy1; University of Lyon; INRA; Aminine

Is the nutritional requirement of zinc different when supplied by organic source?

Bruno Carvalho1, Helvio Ferreira Júnior1, Diego Silva1, Pedro Arnaut1, James Pettigrew2, Luiz Fernando Albino1, Melissa Hannas1, Horacio Rostagno1; Universidade Federal de Viçosa; Alltech

Performance and necrotic enteritis lesion scores of broilers fed diets supplemented with sodium bisulfate, by lowering salt, in two floor pen trials with live coccidia vaccination, used litter, and Clostridium perfringens challenge

John Pitts1, Michael Sims2, Danny Hooge*3; Jones-Hamilton Company; Virginia Diversified Research Corp.; Consulting Poultry Nutritionist

In vivo collagen synthesis in Pectoralis major over different ages of bird grow-out cycle in two strains of commercial broilers

Pramir Maharjan*1, Jordan Weil1, Antonio Guerra1, Katie Hilton1, Nawin Suesuttajit1, Barbara Mallmann1, Justina Caldas2, Casey Hanning1, Craig Coon1; University of Arkansas; Cobb-Vantress, Inc.

Improving laying hens’ performance by using dietary probiotic

Mohamed EL-MANYLAWI*, Ahmed ABBAS Animal Production Department, Faculty of Agriculture, Cairo University

Supplementation of Bacillus subtilis DSM 32315 in laying hen diets positively influences their production performance and intestinal microbial composition.

Bayo Sokale*, Anita Menconi, James Wen Evonik Corporation

Effects of a multi-strain direct fed microbial (Bacillus subtilis DSM 32324, DSM 32325 and Bacillus amyloquefaciens DSM 25840), on Salmonella Enteritidis colonization in laying hens

Roland Koedijk*1, Dorthe Sandvang1, John Schleifer2, Charles Hofacre3, Anée Kehlet1; Chr. Hansen A/S; Chr. Hansen Inc.; Southern Poultry Research Group
10:15 a.m. T144
Effects of fumonisins and deoxynivalenol on layer hens and the efficacy of a mycotoxin
deactivating enzyme and a bacterial strain to counteract
Verena Starkl*, Barbara Doupovec², Sabine Masching¹, Dian Schatzmayr², Ursula Hofstetter¹
¹Biomin Holding GmbH; ²Biomin Research Center

10:30 a.m. T145
The effects of refined functional carbohydrates (RFCs) supplemented to laying hens on egg
production and mortality under commercial conditions
Jill Nezworski*, Sangita Jalukar², Dan Karunakaran² ¹Blue House Veterinary LLC; ²Arm and
Hammer Animal and Food Production

10:45 a.m. T146
The impact of feeding Black Soldier Fly Larvae on laying hen performance and egg quality
Paul Patterson*, Luke Trimble, Arianna Ferguson, Heather Sciubba, Nuket Acar Mississippi
State University, The Pennsylvania State University

11:00 a.m. Dendy Keynote Lecture – Room Number B313
Courage over Comfort - How can you cultivate food safety?
Dr. Lone Jesperson, CULTIVATE

12:00 p.m. SCAD Business Meeting – Room Number B313

12:00 p.m. SPSS Business Meeting – Room Number B313
An investigation of variables associated with mortality in a broiler complex in Mississippi
Leslie Johnson*1GS, Robert Wills1, Brandon Carter2, Phil Stayer3, Alejandro Banda1, Natalie Armour1 1Mississippi State University; 2Elanco Animal Health; 3Sanderson Farms, Inc.

Comparison of the serological responses induced by a multivalent inactivated oil emulsion virus vaccine applied in two sites (breast intramuscular and inguinal subcutaneous), and gross evaluation of the local vaccine reaction.
Eric Orozco*1GS, Phil Stayer3, Erin Riley2, Rob Lawhon2, Alejandro Banda1 1Mississippi State University; 3Sanderson Farms Company

Comparison studies of a live GA08 vaccine on protection against GA13 and DMV/1639 IB viruses in SPF leghorns
Jon Schaeffer, John Dickson, Manuel Da Costa, Kalen Cookson* Zoetis

Use of sentinel broilers to isolate and identify existing populations of infectious bronchitis viruses in Northwest Arkansas
Abigail Reith1, Lloyd Kock2, Kalen Cookson1 1University of Georgia MAM; 2Zoetis

Alterations in H5 highly pathogenic and low pathogenic recombinant hemagglutinin tissue tropism associated with increasing age in selected Anseriformes and Galliformes bird species
Carmen Jerry1,2GS, Christina Leyson3, David Stalknecht4, Monique Franca12 1Poultry Diagnostic and Research Center; 2Southeast Poultry Research Laboratory; 3Southeastern Cooperative Wildlife Disease Study; 4Department of Pathology, College of Veterinary Medicine

Infection and transmission of recent LPAIV H9N2 virus isolates in SPF chickens.
Elizabeth Pusch*, David Suarez Southeast Poultry Research Laboratory, U.S. National Poultry Research Center, U.S. Dept. of Agriculture, Agricultural Research Service

Cross-protection efficacy of inactivated and recombinant vaccine against different lineages of H5 high pathogenic avian influenza viruses
Miria Criado*, Kateri Bertran, Donghun Lee, Lindsay Killmaster, David Swayne USDA-ARS, Southeast Poultry Research Laboratory

Changes in the genome of an H5N8 highly pathogenic avian influenza virus after experimental infection in chickens and mallards
Christina Leyson*, Sungsu Youk, Dong-Hun Lee, Kiril Dimitrov, Diane Smith, Mary Pantin-Jackwood Southeast Poultry Research Laboratory, National Poultry Research Center, US Department of Agriculture

Avian paramyxovirus 13 replicates but does not induce cross-protective immunity in chickens against challenge with virulent Newcastle disease virus
Iryna Goraichuk1,2, Kiril Dimitrov1, Poonam Sharma1, Timothy Olivier1, Patti Miller1, David Swayne1, Claudio Afonso1, David Suarez2 Southeast Poultry Research Laboratory, US National Poultry Research Center, ARS, USDA; 2National Scientific Center Institute of Experimental and Clinical Veterinary Medicine; 3Richard B. Russell Agricultural Research Center, US National Poultry Research Center, ARS, USDA
10:30 a.m. T157
Avian reoviruses molecular characterization, looking for better classification methods
Rodrigo Gallardo*, Sofia Egana1, Simone Stoute1, HL Shivaprasad1, Beate Crossley1, Ha-Jung Roh2 1University of California, Davis; 2CEVA animal Health

10:45 a.m. T158
Chicken macrophages’ susceptibility and innate immune response to infectious bursal disease virus with the supplementation of 1,25(OH)2D3
Juan Rodriguez-Leompte*, Jairo Jaime-Correa2, Diana Vargas-Bermudez2, Alexander Yitbarek3, Julian Reyes1 1Atlantic Veterinary College -University of Prince Edward Island; 2Universidad Nacional de Colombia; 3University of Guelph

11:00 a.m. Dendy Keynote Lecture – Room Number B313
Courage over Comfort - How can you cultivate food safety?
Dr. Lone Jesperson, CULTIVATE

12:00 p.m. SCAD Business Meeting – Room Number B313

12:00 p.m. SPSS Business Meeting – Room Number B313
Metabolism and Nutrition VIII — Feed Additives
Moderator: Dr. Mahmoud Masa’deh, Devenish Nutrition
Room Number: B313
Tuesday, February 12, 2019
7:45 a.m. T159
Effect of a feed additive (EndoBan) on broiler performance
Jesse Stoops, Hilke Willemsen, Kurt Van de Mierop*, Nutrex NV
8:00 a.m. T160
Evaluation of broilers supplemented with Bastion® feed additive and challenged with Clostridium perfringens
8:15 a.m. T161
Bastion® feed additive improves performance of broilers in a commercial antibiotic-free production program
Mahmoud Masadeh*, Nicholas Evans, Theodore Karnezos, Curtis Novak* Purina Animal Nutrition; PMI Nutritional Additives
8:30 a.m. T162
Effects of a commercial Macleaya cordata extract on broiler growth performance under a coccidiosis challenge
Meghan Schwartz*, Nickki Tillman, Marcos Rostagno Phytobiotics North America, LLC; Nutritional Statistics, LLC
8:45 a.m. T163
Use of Alquermold Natural to treat and prevent Clostridium perfringens induced necrotic enteritis in broilers
David Díez, Carlos Domenech, Júlia Pié*, Manuel Rosemberg Biovet, S.A.; Universidad Científica del Sur
9:00 a.m. T164
Metallo-phytobiotics; novel weapons against Clostridium perfringens
Viviana Molnar-Nagy*, Zsofia Bata, József Gyenis BV Science Inc.; Dr. Bata Ltd.
9:15 a.m. T165
Effect of a feed incorporated metallo-phytobiotic on the performance of broiler chickens given a non-defined challenge
Bruno Vecchi*, Emanuel Gumina, Ariel Sugezky, Sherry Layton Vetarsco SA; BV Science
9:30 a.m. T166
Augmented fat soluble vitamin absorption due to phytogetic feed additive supplementation in broiler chicks
Chasity Pender*, Kimberly Gardner, Christopher Bailey, Raj Murugesan Biomin America, Inc.; Texas A&M University
9:45 a.m. T167
The optimum dose level of a phytogetic blend in diets for broilers challenged with a virulent coccidia live vaccine
Francisco Diaz*, Andreas Mueller, Jan Dirk van der Klis Delacon Biotechnik GmbH
10:00 a.m. T168
Anticoccidial Efficacy of Amprolium 125 ppm Fed to Commercial Broiler Chickens Infected with a Mixture of Eimeria maxima
Greg Mathis, Emily Kimmimau Southern Poultry Research; Huvepharma
10:15 a.m. T169
Efficacy of different forms of benzoic acid and butyric acid in broilers subject to Eimeria challenge
Frances Yan*, Juxing Chen, Vivek Kutappan, Mercedes Vazquez Anon Novus International Inc.
10:30 a.m. T170
Evaluating the effects of different sources of butyric acid on growth performance in broilers
Cinta Sol*, Mónica Puyalto, Juan Mallo, Justin Fowler NOREL; University of Georgia
10:45 a.m. T171
Influence of chicory root powder and zinc sulfate on meat quality and histomorphology of muscles in broilers
Habib Rehman, Mirza Usman, Hafiz Rehman, Saima Masood, Amber Zafar, Hafsa Zaneb, Saima Ashraf* University of Veterinary and Animal Sciences Lahore

11:00 a.m. Dendy Keynote Lecture – Room Number B313
Courage over Comfort - How can you cultivate food safety?
Dr. Lone Jesperson, CULTIVATE

12:00 p.m. SCAD Business Meeting – Room Number B313
12:00 p.m. SPSS Business Meeting – Room Number B313
Metabolism and Nutrition IX – Feed Additives
Moderator: Dr. Mike Persia, VTech
Room Number: B314
Tuesday, February 12, 2019
7:45 a.m. T172
The effect of in ovo injection of carbohydrates, amino acids, vitamins, and electrolytes solutions and minerals on performance of broilers
Alireza Behnamifar, Shaban Rahimi*, Mohammad Amir Karimi Torshizi, Sedigheh Shahvali
Tarbiat Modares University
8:00 a.m. T173
Digestible lysine responses of broiler chickens on growth performance and carcass traits from 14 to 35 days post-hatch
Sonia Liu*, Craig Maynard1, Samuel Rochell2, Justina Caldas3, Mike Kidd1 Poultry Research Foundation, The University of Sydney; 2Center of Excellence for Poultry Science, University of Arkansas; 3Cobb-Vantress, Inc
8:15 a.m. T174
Energy (ME)-releasing efficacy of graded levels of 6-phytase, Natuphos® E, NSPase, Natugrain® TS, and a combination of phytase + NSPase in 28 day old broilers fed corn/soy diets
Robert Jones*, Mike Coelho, Frank Parks BASF Corporation
8:30 a.m. T175
Effects of corn-expressed phytase, a commercial multi-enzyme product, or combination on broiler performance and tibia ash
Jonathan Broomhead*, Talman Hylton2, Phil Lessard3, Mike Lanahan1, Michael Raab1, Joe Moritz2 Agrivida; 2West Virginia University
8:45 a.m. T176
Influence of graded concentrations of phytase in high-phytase diets on growth performance, apparent ileal amino acid digestibility and phytate hydrolysis in broilers
C. Walk*, O. Olukosi2 AB Vista; 2University of Georgia
9:00 a.m. T177
Feeding a combination of xylanase and fermentable oligosaccharide improved feed efficiency of commercial broilers fed corn-soy based diets containing growth promoters and coccidiostats
Gilson Gomes*, Craig Wyatt1, Amy Batal2, Daniel Moore3 AB Vista; 2Sanderson Farms; 3Colorado Quality Research
9:15 a.m. T178
Comparative effects of a xylanase-direct-fed microbial feed additive and a commercial coccidiostat on live performance, intestinal and environmental pathogens, and apparent metabolizable energy of broilers fed corn-soy-based diets and challenged with Clostridium perfringens and Eimeria spp.
9:30 a.m. T179
Effects of protease treatment on broiler chick ileal amino acid digestibility and apparent metabolizable energy
M. Persia*, N. Barrett1, D. Burnham2, A. Belakazar2, F. Mussini3 1Virginia Tech; 2House of Raeford; 3DuPont Industrial Biosciences
9:45 a.m. T180
Evaluation of a specific vectorization of curcumin to reduce inflammatory indicators and improve growth broiler performances
Jean-Francois Gabarrou* PHODE
10:00 a.m. T181
Synergistic anti-inflammatory activity of fatty acids, essential oils and plant extracts in a well-proportioned mixture
Alireza Khadem*, Jamal Al-Saifi1, Ben Letor2, Markella Al-Saifi2, Christos Gougoulias2 1Ghent University; 2Innovad SA
10:15 a.m. T182
The impact of humic acids and essential oil based blends as alternatives of growth promoter agents in productive performance of broiler chickens in the Middle Tropical Region of Colombia Joaquín Pirateque Castellanos*, Blanca Martínez*, Álvaro Uribe Serrano† National University of Colombia; †Promitec Santander

10:30 a.m. T183
Effect of the type of diet and the addition of humic substances as growth promoter in broiler chickens
S. Gomez-Rosales*, M.L. Angeles*, Y.R. Lopez-García*, A. Dominguez-Negrete†, B. Alvarez‡
†National Center of Disciplinary Research in Animal Physiology/National Institute of Research in Forestry, Agriculture and Livestock; ‡Faculty of Natural Sciences, Autonomous University of Queretaro

11:00 a.m. Dendy Keynote Lecture – Room Number B313
Courage over Comfort - How can you cultivate food safety?
Dr. Lone Jesperson, CULTIVATE

12:00 p.m. SCAD Business Meeting – Room Number B313
12:00 p.m. SPSS Business Meeting – Room Number B313
Metabolism and Nutrition X – Probiotics/Feed Additives

Moderator: Dr. Anita Menconi, Evonik
Room Number: B315
Tuesday, February 12, 2019

7:45 a.m. T184
Evaluation of glycerides of organic acids on the performance and intestinal quality of broiler chickens raised in an antibiotic free system.
Luiz Demattê Filho*1,2, Dayana de Oliveira Pereira2, Gustavo do Valle Pereira2, Angelo Lauwaerts3 Korin Agricultura Ltda.; 2 Fundação Mokiti Okada; 2 Proviron Industries NV

8:00 a.m. T185
Comparison of Cobb700 broiler performance when fed diets containing organic acid feed amendments from d 0 to d 42
Kristina Feye*1, Barbara De Almeida Mallmann2, J.P.Caldas-Cueva2, Dana Dittoe1,2, Joshua Jendza2, Guillermo Tellez-Isaías3, Casey Owens4, Michael Kidd5, Steven Rick6 1 University of Arkansas, Department of Food Science, Center for Food Safety; 2 University of Arkansas, Department of Poultry Science; 3 Proviron Industries NV

8:15 a.m. T186
Yeast cell wall immunomodulatory and intestinal integrity effects on broilers challenged with Salmonella Enteritidis
Breno Beirão1, Max Ingtberman1, Melina Bonato*2, Liliana Borges2, Ricardo Barbalho3 Imunova Analises Biologicas Ltda ME; 2 ICC Industrial Comércio Exportação e Importação Ltda.

8:30 a.m. T187
Engineered probiotics to reduce Salmonella enterica and Clostridia perfringens in broilers
Yannis Kaznessis* General Probiotics

8:45 a.m. T188
In-vitro evaluation of a novel 3 strain Bacillus probiotic.
Tom Hashman*1, Thomas Gaydos2, Tadele Kiros3, alain riggi4 1 Envera; 2 Phileo-USA; 3 Phileo-France

9:00 a.m. T189
Bacillus subtilis 29784 strengthens barrier function in vitro, and rescues inflammation-dependent reduction of barrier function during trans-epithelial electrical resistance analysis.
Adam Nelson*1, Stina Rikke Jensen2, Sonja Christian3, Karoline Sidelmann Brinch4,5 Novozymes Biologicals; 1 Novozymes A/S

9:15 a.m. T190
A scientific approach to elucidate in vitro properties of the efficacious probiotic strain Bacillus amyloliquefaciens CECT 5940
Lorena Stannek-Goebel1, Jessica Kleinboelting1, Stella Molk1, Álvaro Ortiz García1, Kiran Duranalli2, Adriana Barri1, Claudia Borgmeier2, Guido Meurer2, Werner Katzer1, Pelzer Stefan*1 1 Evonik Nutrition & Care GmbH; 2 BRAIN AG; 3 AnalytiCon Discovery GmbH

9:30 a.m. T191
Effect of Bacillus subtilis 5940 on performance of broiler chickens: a meta-analysis of 8 independent research trials
Anita Menconi*1, S. Maria Mendoza1, Alvaro Ortiz2, Chavalit Piriyabenjawat3, Kiran Duranalli4 1 Evonik Corporation; 2 Evonik Nutrition & Care GmbH Sucursal en España; 3 Evonik (SEA) Pte Ltd; 4 Evonik Nutrition & Care GmbH

9:45 a.m. T192
Effect of supplementation of a Bacillus-based probiotic on broiler growth performance
Alain Riggi*1, Anis HEDHLI1, Douglas CURRIE2, Eric AUCLAIR1, Ruth RASPOET1 1 Phileo - Lesaffre Animal Care; 2 Roslin Nutrition Ltd

10:00 a.m. T193
Compatibility of a live-attenuated Salmonella vaccine and a new multi strain probiotic in chickens
Dorthe Sandvang1, John Schleifer*2, Roland Koedijk1, Anée Kehlet1 1 Chr. Hansen A/S; 2 Chr. Hansen Inc.
10:15 a.m. T194
Modification of a limestone solubility method and potential to correlate with in vivo calcium digestibility
Seon-Woo Kim¹, Roselina Angel*¹, Peter Plumstead², Wenting Li¹ ¹Department of Animal and Avian Sciences, University of Maryland; ²Chemunique

10:30 a.m. T195
Evaluation of different limestone sources used by the US poultry feed industry
Franco Mussini*, Kenneth Wilson, Janet Remus, Elizabeth Kim, Milan Hruby Dupont Danisco Animal Nutrition

11:00 a.m. Dendy Keynote Lecture – Room Number B313
Courage over Comfort - How can you cultivate food safety?
Dr. Lone Jesperson, CULTIVATE

12:00 p.m. SCAD Business Meeting – Room Number B313
12:00 p.m. SPSS Business Meeting – Room Number B313
Poster Sessions
Moderators: Dr. Sheila Purdum, UNL and Dr. Aaron Kiess, MSSTATE
Room Number: B313 Foyer
Monday, February 11, 2019
1:00 p.m. – 6:00 p.m.
Tuesday, February 12, 2019
8:00 a.m. – Noon

Teaching, Pedagogy, Extension
P197
Piloting a Rwandan smallholder broiler production model: Leveraging public-private partnerships
Emily Urban*, Tom Gill, Dave Ader, Michael Smith University of Tennessee Institute of Agriculture

P198
Correlation between flock manager personality assessment and flock productivity
John Brunnquell*1GS, Anthony Pescatore1, Sarah Davidson1, Joe Russell1 1EGG INNOVATIONS LLC; 2University of Kentucky

P199
The Animal Food and Nutrition Consortium Established to Fund Pre-competitive Research, Outreach, and Career Development
Adam Redhead*, Peter Ferket North Carolina State University

Physiology, Endocrinology and Reproduction
P200
Effect of cold water on the GH, IGF-1, IL-2 and immune responses of laying hens during high ambient temperature in summer
Jong Hoon Kim, Chun Ik Lim, Muhamad Masud Rana, Kyeong Seon Ryu, Chang Won Kang* Chonbuk National University

P201
Investigation of the relationship between humoral and egg yolk antibodies in broiler breeder hens.
Talaat Al-Alwani*1GS, John Carey Texas A&M University

P202
Delayed access to feed impairs amino acid and carbohydrate utilization in newly hatch broiler chicks
Jason Payne*1, Monika Proszkowiec-Weglarz2, Laura Ellestad1 1University of Georgia; 2Animal Biosciences and Biotechnology Laboratory, United States Department of Agriculture, Agriculture Research Service, NEA

P203
Consequences of genetic selection on metabolic regulation of skeletal health in broiler chickens.
Laura Ellestad*, Jason Payne, Brett Marshall, Grace Boothby University of Georgia

P204
Enteric proteomic endocrine pathway changes to day of hatch chicks after in ovo bacterial inoculation.
Michael Trombetta*1UG, Kim Wilson1, Denise Rodrigues1, Whitney Briggs2, Kaylin Chasser1, Audrey Duff1, Liwen Zhang1, Walter Bottje2, Lisa Bielke1 1The Ohio State University; 2University of Arkansas

P205
Influence of enteric pioneer colonizers on canonical metabolic pathways in day of hatch chicks
Kaylin Chasser*1GS, Kimberly Wilson1, Denise Russi-Rodrigues1, Walter Bottje2, Audrey Duff1, Whitney Briggs1, Lisa Bielke1 Ohio State University; 2University of Arkansas

P206
The effect of genetic selection on gene expression in the developing somatotropic axis of broilers
Lauren Vaccaro*1, Panpradap Sinpru2, Kristen Brady3, Yupaporn Chaiselha2, Tom Porter3, Laura Ellestad1 1University of Georgia; 2Suranaree University of Technology; 3University of Maryland
Structural differences in the F1 preovulatory follicle between low and high egg producing turkey hens
Kristen Brady*1, Julie Long2, Tom Porter1 1University of Maryland; 2USDA ARS Beltsville Agricultural Research Center

Different combinations of enrichment and plating media for detection of naturally occurring Campylobacter from retail chicken livers
Tori Thompson*1, Nelson Cox, Mark Berrang, Arthur Hinton, Hung-Yueh Yeh, Jodie Plumblee Lawrence, Susan Brooks U.S. National Poultry Research Center

Mild heat treatment of chicken livers to lessen Campylobacter contamination
Hannah Huff*1, Mark Berrang, Nelson Cox, Richard Meinersmann, Hong Zhuang, Brian Bowker USDA-Agricultural Research Service-U.S. National Poultry Research Center

Segmental bioelectrical impedance analysis of broiler breast fillets to detect the areas of the fillets affected with woody breast myopathy
Courtney Keeble*1, Avery Smith, Laura Garner, Brock Herron, Nickie Johnson, Olivia Brahms, Amit Morey Auburn University

Effects of functional ice (FICE) made with common poultry processing aids to actively eliminate spoilage microorganisms during storage
Olivia Brahms*1, Jasmine Kataria, Avery Smith, Laura Garner, C. Herron, Ana-Cecilia Rush, Courtney Clay, Courtney Keeble, Elizabeth Johnson, M. Black, Amit Morey Auburn University

Quality effects of Functional Ice (FICE) manufactured with acetic acid and phosphate on raw chicken thighs during a 3-day storage period
Ana-Cecilia Rush*1, Olivia Brahms, Jasmine Kataria, Laura Garner, Avery Smith, C. Herron, Courtney Clay, Courtney Keeble, Elizabeth Johnson, M. Black, Amit Morey Auburn University

Characterization of Salmonella inhibition by ε-polylysine using growth curve analysis
Laney Froebel*1, Tri Duong Department of Poultry Science, Texas A&M University

Dietary Supplementation of MSP™ on the incidence, gene expression and physiochemical parameters of breast muscle myopathies
Rebecca Delles*1, Katie Eastridge1, Rijin Xiao1, Donavyn Coffey1, Mike Ford1, Karl Dawson1, Ronan Power1, Anthony Pescatore1, Tuoying Ao1 Alltech, Inc; 2University of Kentucky

Soybean oil and antioxidants in meat color of broiler
Bruno Lala*, Nara Delbem, Carolina Santos, Ana Beatriz Faitarone, Evelyn Brito, Luciana Mena, Roberto Roça São Paulo State University - UNESP - FMVZ

Effectiveness of two commonly used antimicrobials with processed broiler samples for reduction of Salmonella and Campylobacter
Melissa Landrum*1, Nelson Cox2, Jeanna Wilson1, Mark Berrang2, Gary Gamble2, Mark Harrison1, Brian Fairchild1, Woo Kim1, Arthur Hinton3 1University of Georgia; 2U.S. National Poultry Research Center; 3USDA ARS
Texture analysis of cooked woody breast meat by the temporal dominance of sensation (TDS) method
Hong Zhuang*, Debolina Chatterjee, Brian Bowker US National Poultry Research Center

Salmonella survival in filter sterilized carcass rinse with various concentrations of cetylpyridinium chloride

Determination of functionality of liquid smoke fractions as all-natural antimicrobial against foodborne Salmonella spp.
Douglas Cosby*, Susan Mize, Mark Vanderbleek, Sara Llamas-Moya, Roshan Adhikari
Poultry Microbiological Safety & Processing Research Unit, USDA-Agriculture Research Service; Kerry Inc, Global Technology and Innovation Centre

Improving value and utilization of breast fillets with the wooden breast myopathy through further processing into hotdogs
Harshovardhan Thippareddi*, Edward Moore, Taylor Krause, T. Dean Pringle, Alexander Stelzeni, Hong Zhuang, Brian Bowker
University of Georgia; National Poultry Research Center, USDA Agricultural Research Service

Effects of corn kernel hardness and grain drying conditions on particle size when grinding using a roller mill or hammermill
Hernan Cordova-Noboa, Edgar Oviedo-Rondón, Ivan Ospina-Rojas, Adam Fahrenholz, Viviana San Martin, Miguel Chico, Yilmar Matta-Lozano, Andres Ortiz-Diaz, Lina Peñuelas-Sierra Prestage Department of Poultry Science North Carolina State University

Effect of Spaghetti Meat abnormality on broiler chicken breast meat quality
Giulia Tasoniero*, Hong Zhuang, Brian Bowker
USDA-ARS Pathology

Effect of different challenge models to induce necrotic enteritis on the intestinal microbiota of broiler chickens
Cristiano Bortoluzzi*, Bruno Serpa Vieira, Ana Villegas, Jun Liu, Charles Hofacre, Todd Applegate
University of Georgia; Southern Poultry Research Group

Evaluation of deoxycholic acid as a prophylactic treatment to prevent Histomoniasis in turkeys
Lesleigh Beer*, Christine Vuong, Juan Latorre, Samuel Rochell, Xiaolun Sun, Guillermo Tellez, Billy Hargis
University of Arkansas

Acute fowl cholera in a flock of Ring-necked Pheasants
Laura Chen*, Doug Anderson, Oscar Fletcher
North Carolina State University; Georgia Poultry Laboratory Network

Changes to gut microbiome through ten days of age affected by pioneer colonizing bacteria
Emily Winson*, Denise Rodrigues, Kimberly Wilson, Whitney Briggs, Audrey Duff, Kaylin Chasser, Lisa Bieie
The Ohio State University

Development of chicken intestinal organoid as a model to study function and disease
Mohan Acharya*, Narayan Rath
University of Arkansas; USDA/Agriculture Research Service
Gut microbiota-mediated suppression of multi-drug resistant Salmonella Reading and Braenderup by Diamond V Original XPC in an in vitro poultry model
Andrea Binnebose*, Tom Weigand, Cole Reedy, Joan Butler, William Chaney, Hilary Pavlidis
Diamond V

Autogenous, inactivated vaccine and research techniques developed for use against inclusion body hepatitis.
Christine Vuong**, Makenly Coles1, Lucas Graham1, Kyle Teague1, Brittany Graham1, Mikayla Baxter1, Thaina Barros1, Juan Latorre1, Guillermo Tellez1, Holly Sellers2, Chip Garrity2, Billy Hargis1 1University of Arkansas; 2University of Georgia; 3OK Foods

Early chick immunity after in ovo vaccination of F strain Mycoplasma gallisepticum and the influence of sex on the response to the vaccination
Katie Elliott*, Scott Branton2, Jeffrey Evans2, Edgar Peebles1 1Mississippi State University; 2USDA-ARS Poultry Research Unit

The effect of sodium bisulfate and coccidiostate on intestinal lesions, GUT microbiota, and growth performance of broilers
Mayam Tolghari, Shaban Rahimi*, Mohammad Amir Karimi Torshizi Tarbiat Modares University

Evaluation of long-term immunity and protection against Salmonella spp by orally administrated inactivated vaccine.
Emanuel Gumina*, Gonzalo Almaraz1, Ariel Sugezky1, Igor Praxedes-Campagnoni2,3, Sherry Layton1,4 1Vetanco SA; 2Vetanco Brazil; 3University of Santa Catarina State, Department of Animal Health; 4BV Science

Evaluating the efficacy of spray-dried plasma in mitigating intestinal colonization by Salmonella Typhimurium in broiler chicks
Candice Blue*, Yasin Jababu1, Devendra Shah2, Yewande Fasina1 1North Carolina Agriculture and Technical State University; 2Washington State University

Model development: day of challenge of Salmonella heidelberg in broilers
Nathaniel Ollis*, Charles Hofacre1, Jennie Baxter1, Roy Berghaus2 1Southern Poultry Research Group; 2University of Georgia

Screening for potential avian pathogenic E. coli (APEC): surveillance data from two broiler flocks
Nicole Lima Barbieri*, Estefania Rama, Manpreet Singh, Harshvardhan Thippareddi, Catherine Logue University of Georgia

Characterizing avian pathogenic Escherichia coli (APEC) associated with cellulitis in production turkeys from Iowa
Aline de Oliveira*GS, Nicole Barbieri, Catherine Logue University of Georgia

Avian Pathogenic Escherichia coli (APEC) Diagnostics in Georgia — Comparison of Gene Profiles with Tissue of Isolation.
Catherine Logue*, Darby Newman, Lisa Nolan, Nicole Barbieri University of Georgia

Effect of select Gram negative enteric strains on inflammation in broiler chicks
Kate McGovern*UG, Kaylin Chaser, Audrey Duff, Whitney Briggs, Denise Rodrigues, Emily Winson, Mike Trombetta, Lisa Bielke The Ohio State University
P240
Timing of challenge model for Campylobacter jejune colonization in broiler chickens
Virginia Baxter*1, Charles Hofacre1, Roy Berghaus2 1Southern Poultry Research Group;
2University of Georgia

P241
Speciation of Campylobacter spp. isolates from poultry sources with end-point PCR and real-
time PCR
Hung-Yueh Yeh*, Jodie Plumbee-Lawrence, N. Cox, T. Thompson, M. Berrang, A. Hinton, Jr., S.
Brooks USDA ARS USNPC

P242
Efficacy of trace mineral-amino acid complexes in a necrotic enteritis challenge model
Charles Hofacre*, Greg Mathis1, Brett Lumpkins2, Marco Rebollo3, John Smith2 1Southern
Poultry Research Group; 2Zinpro Corporation; 3Southern Poultry Research Group

P243
Comparison of the impact of monobutyrin, other glycerides, and glycerol (SiloHealth 104),
sodium formate (Arnasil NA) and bacitracin methylene disalicylate (BMD) on performance
and necrotic enteritis when fed to broiler chickens challenged with mild coccidia and clostridium
perfringens (Cp).
Mike Coelho*, Peter Ader2 1BASF Corporation; 2BASF SE

P244
Evaluation of effectiveness of three probiotic products and a prebiotic to control Clostridium
perfringens induced necrotic enteritis in broilers
Charles Hofacre*, Anis Hedhi1, Ruth Raspoet2, T.J. Gaydos3, Tadele Kiros2, Eric Audair2 1Southern
Poultry Research Group; 2Phileo - Lesaffre Animal Care - France; 3Phileo - Lesaffre Animal Care

P245
Histomonas meleagridis oral inoculation of fed and fasted turkeys fails to cause blackhead
disease.
Catherine Fudge*1, Elle Chadwick, Robert Beckstead North Carolina State University

P246
Establishing monodonal Eimeria spp. isolates in immunosuppressed chickens
Miranda Carrisosa*1, Kenneth Macklin, Ruediger Hauck Auburn University

P247
Protection efficacy of a recombinant Herpesvirus of turkey infectious laryngotracheitis (rHVT-LT)
vaccine when administered at double the commercial dose
Daniel Maekawa1, Sylva Riblet, Maricarmen Garcia University of Georgia

P248
Effect of dietary spray-dried porcine plasma on humoral immune response to Newcastle disease
virus vaccination in broiler chicks
Candice Blue*, Yewande Fasina North Carolina Agriculture and Technical State University

P249
Evolution of Mexican H7N3 highly pathogenic avian influenza viruses
Sungsu Youk*1, Dong-Hun Lee2, Helena Ferreira2, Claudia Alonso1, Angel Absalon2, David
Swaney1, David Suarez2, Mary Pantin-Jackwood3 1Agricultural Research Service, U.S.
Department of Agriculture; 2University of Connecticut; 3University of Sao Paulo; 4Vaxbiotek S.C.

Environment, Management and Animal Well-Being

P250
Effect of dual light warmth on broiler distribution, feeding and drinking behavior
Douglas Aldridge*, Colin Scanes, Michael Kidd University of Arkansas

P251
Behavioral response of broilers chickens fed with probiotic
Ianê Almeida*, Leonardo Vega2, Ibira Almeida Paz1, Mariana Borges1, Gustavo Chaves1,
Marconi Silva1, Caio Ouros1 1UNESP - FMVZ - DPA; 2F & S Consulting
P265
The reliability of palpation, x-ray, and ultrasound techniques for the detection of keel bone damage
Linnea Tracy1, Mieko Temple2, Darin Bennett2, Kim Sprayberry2, Maja Makagon3, Richard Blatchford*3 1University of Pennsylvania, Philadelphia; 2California Polytechnic State University; 3University of California, Davis

P266
Variability in Enterobacteriaceae enumeration from poultry feed
Andra Powell*, Kurt Richardson, Cheryl Weller, Nicole Holcombe Anitox Corp

P267
Field study to control inclusion body hepatitis in broilers by addition of spray-dried plasma in prestarter feed
Thomas Cherián1, Joy Campbell*2, Saif Balios1 1Rossdown Farms; 2APC

P268
Early-life thermal conditioning alleviates effects of heat stress in broilers
Ronique Beckford*, Linda Farley1, Laura Elleslad2, Monika Proszkowiec-Weglarz2, Kristen Brady1, Roselina Angel1, H-C Liu1, Tom Porter1 1University of Maryland; 2University of Georgia; 3USDA ARS; 4North Carolina State University

P270
Effect of a direct-fed microbial on broiler performance, paw score and carcass traits when supplemented to a feed program containing enzymes.
S. Watkins1, J. Remus*2 1Center of Excellent for Poultry Science, University of Arkansas; 2Danisco Animal Nutrition/ DuPont Industrial Biosciences

P271
Occurrence of mycotoxins in Latin America in 2018
Alexandro Marchioro*, Ursula Hofstetter, Gerd Schatzmayr, Verena Starkl, Anneliese Mueller BIOMIN Holding GmbH

P272
Can Flue Gas Desulfurization Gypsum be used as a Bedding Material for Broiler Production
Dexter Watts1, Joseph Purswell2, H. Torbert1, Jeremiah Davis2 1USDA-ARS National Soil Dynamics Laboratory; 2USDA-ARS Poultry Research Unit; 3Department of Biosystems Engineering, Auburn University

P273
Impact of water sanitation on broiler chicken production and welfare
Leonie Jacobs*, Mike Persia1, Nisana Siman-Tov1, Jesse McCoy2, Lindsay Good2 1Virginia Polytechnic Institute and State University; 2Neogen Corp.

P274
Effect of stocking density and dietary antimicrobial inclusion on blood physiological variables of male broilers grown to 35 days of age.
Hammed Olanrewaju*, Joseph Purswell, Stephanie Collier, Scott Branton USDA-ARS, Poultry Research Unit

P275
Developing artificial hatching with natural hatching (maternal care) of broiler chickens and its effect on the behavioural and hormonal traits of the embryos.
Salwan Abdulateef*, Adel Al-Hamadani, Ahmed Majid University of Anbar

P276
In ovo feeding dose response of probiotic Clostridium species on hatch performance and hatching quality of broilers.
Shaymaa Abousaad*, Peter Ferket, Ramon Malheiro3, Shawn Jones3, Bryan Tracy3 1North Carolina State University; 2White Dog Labs, Inc.

P277
Energy value of hydrolyzed feather meal for broiler chickens, determined by regression method
Ayodeji Aderibigbe*2, Olayiwola Adeola Purdue University
Effect of dietary protein level on performance and tail feather length of male ring-necked pheasant chicks from 3 to 9 weeks of age.
Christopher Delfelder*, Richard Bayer Kansas State University

Effect of production rate and knife distance on pellet quality
Reid Beeman*, Marut Saensukjaroephon, Caitlin Evans, Chad Paulk, Charles Stark Kansas State University

The effect of coarse corn inclusion in broiler diets on pellet quality
Aundria Ogles*, Caitlin Evans, Courtney Truelock, Charles Stark, Chad Paulk Kansas State University

The effect of filter type and warm-up time on pellet durability index using the Holmen NHP100 portable pellet tester
Rachel Kort*, Caitlin Evans, Marut Saensukjaroephon, Haley Wecker, Chad Paulk, Charles Stark Kansas State University

Changes to the poultry microbiome may mediate the anti-Salmonella effects demonstrated by Diamond V Original XPC
Kristina Feye*, Peter Rubinelli1, Hilary Pavlidis2, J. Byrd3, W. Chaney2, Don McIntyre2, Steven Ricke1 University of Arkansas, Department of Food Science, Center for Food Safety;2 Diamond V Mills, Inc

Distribution of trypsin Inhibitor and urease activity in soy products in different countries and world areas
Juxing Chen*, Cindy Atwell1, Karen Wedekind1, Jeffery Escobar2, Mercedes Vazquez-Anon1 Novus International Inc;1 Elanco Animal Health

Effects of dietary ViligenTM on the performance and ceca VFA concentration of broiler chicks
Tuoying Ao*, Marquisha Paul, Anthony Pescatore, Hui Zhao, Lizza Macalintal, Mike Ford, Karl Dawson Alltech-University of Kentucky Nutrition Research Alliance

Diet mediated changed in fecal microbiome of broilers chickens consuming a combination of rye and corn based diets.
Guillerimo Tellez-Isaias1, Billy Hargis1, Juan David Latorre1, Peter Rubinelli1, Sang In Lee, Stephen Bicker1, Ruben Merino-Guzman1, Si Hong Park1, Steven Ricke1, Kristina Feye1, Nick Anthony1, Mikayla Baxter*1 University of Arkansas;1 University of California, San Diego;2 National Autonomous University of Mexico;2 Oregon State University

In ovo delivery of mannose-based oligosaccharides in fertile broiler eggs facilitate early intestinal cell development
Lizza Macalintal*, Rijin Xiao, Anthony Pescatore, Ronan Power, Tuoying Ao, Michael Ford, Ryan Goettl, Karl Dawson Alltech-University of Kentucky Nutrition Research Alliance

Differences in Brazil, India, China and USA-origin corn AMEn estimation using near infrared transmittance technology directly linked to broiler AMEn and the Monte Carlo simulation
Mauricio Cunha*1, Milan Hruby1 Dupont Industrial Biosciences;2 Dupont Danisco Animal Nutrition
Effect of the dietary inclusion of black soldier fly larvae meal on broiler performance and carcass traits
Mireille Arguelles-Ramos*1, Christian Hernandez-Gracia2, Gabriela Ramirez-Diaz3, Tanya Carrasquillo-Santigo2, Nashalisse Fernandez-Otero2, Karla Rodriguez-Camacho2, Jose Fonseca-Martinez2, Aixa Rivera-Serrano2, Lizmarie Camareno-Lozada3 1Department Of Animal And Veterinary Sciences, Clemson University; 2Department Of Animal Science, University Of Puerto Rico - Mayaguez Campus

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Matthew Jones*, Adam Davis University Of Georgia

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Kurt Richardson*1, Phil McGuire1, Carlos Millán2, Inmaaulada Ramirez2, Marta Gracia2 1Anitox Corp; 2Amsede Agralimentaria, S.L. C

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Fernanda Castro105, Sean Yang2, Elizabeth Wozniak2, Woo Kim1 1University of Georgia; 2Cytozyme Laboratories

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1 University of Missouri; 2 Zinpro Corporation

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Abiodun Ayoola*1, Adeboye Fadiolu1, Oluseye Oluwatosin1, Oluwatomile Osunwale1, Luis Azevedo1 1 Centre of Excellence in Agricultural Development and Sustainable Environment, Federal University of Agriculture Abeokuta; 2 Department of Animal Nutrition, Federal University Agriculture Abeokuta; Novus International Inc.

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1 Kansas State University; 2CI America

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**USPOULTRY Presentation**

B-313  
Tuesday, February 11  
3:30 p.m.  
Chair: Dr. John Glisson, USPOULTRY

**Poster Reception**

B-313 Foyer  
Monday, February 11  
4:00 – 6:00 p.m.  
Co-Chairs: Dr. Mary Beck, Mississippi State, and Dr. Mark Jackwood, UGA

**Milton L. Dendy Keynote Address**

B-313  
Tuesday, February 12  
11:00 a.m.  
Dr. Lone Jesperson, Cultivate, Haustrive NE, Switzerland  
Chair: Dr. Rüdiger Hauck, Auburn

**SCAD Business Meeting**

B-312  
Tuesday, February 12  
Noon  
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B-313  
Tuesday, February 12  
Noon  
Chair: Dr. April Levy, DSM Nutritional Products
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Kacey O’Donnell – MSSTATE

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Bryan Aguanta - UGA

**Processing and Products**
Brooke Bodle (Jason Lee) - TAMU

**Physiology**
Matthew Livingston, NCSU

**Pathology**
Katherine Cupo - NCSU

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Haihan Zhang – VA Tech
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Marquisha Paul – U. KY
Maci Oelschlager
Courtney Ennis - MSSTATE

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Sara Cloft – Auburn
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