

2023

**INTERNATIONAL
POULTRY
SCIENTIFIC
FORUM**

JAN. 23 - 24



2023 INTERNATIONAL POULTRY SCIENTIFIC FORUM

Concurrent Meeting of
The Southern Poultry Science Society 44th Annual Meeting
The Southern Conference on Avian Diseases 64th Annual Meeting
January 23-24, 2023

Program Summary

MONDAY SESSIONS

JANUARY 23	ROOM NUMBER	TIME	PAGE NUMBER
Teaching, Pedagogy, Extension	B-311	7:30 a.m. — 8:15 a.m. Dr. Brian Fairchild, UGA	1
Processing & Products	B-311	8:15 a.m. — 10:15 a.m. Dr. Jordan Gruber, IFF	2
Physiology I Broilers, Turkeys	B-311	10:30 a.m. — 1:15 p.m. Dr. Ramesh Selvaraj, UGA	3
Physiology II Layers, Breeders	B-311	1:15 p.m. — 4:00 p.m. Dr. Brian Jordan, UGA	5
Pathology I	B-312	8:00 a.m. — 10:00 a.m. Dr. D.G. Sandu, Alltech	7
Pathology II	B-312	10:15 a.m. — Noon. Dr. Eniope Oluwayinka, UGA	8
SCAD I	B-312	1:00 p.m. — 4:00 p.m. Dr. Danielle Graham, UARK	9
Metabolism & Nutrition I General Nutrition	B-313	7:30 a.m. — 10:00 a.m. Dr. Jordyn Samper, Orffa	11
Metabolism & Nutrition II General Nutrition	B-313	10:15 a.m. — 1:45 p.m. Dr. Chad Paulk, KSU	13
Metabolism & Nutrition III Vitamins and Minerals	B-313	1:45 a.m. — 3:45 p.m. Dr. Sam Rochell, Auburn	15
Metabolism & Nutrition IV Amino Acids, Enzymes	B-314	7:30 a.m. — 10:00 a.m. Dr. Joe Moritz, WVU	16
Metabolism & Nutrition V Feed Additives	B314	10:15 a.m. — Noon Dr. Timothy Boltz, MSSTATE	18
Metabolism & Nutrition VI Feed Additives	B314	1:00 p.m. — 4:00 p.m. Dr. Timothy Johnson, Purdue	19
Environment Management I Animal Well-being	B315	8:00 a.m. — 10:00 a.m. Dr. Jeanna Wilson, UGA	21
Environment Management II Animal Well-being	B315	10:15 a.m. — Noon Dr. Prafulla Regmi, UGA	22
Environment Management III Animal Well-being	B315	1:00 p.m. — 2:15 p.m. Dr. Victoria Ayres, TN Tech	23
Environment Management IV Environmental Impacts	B315	2:15 p.m. — 4:00 p.m. Dr. Kelley Wamsley, MSSTATE	24
Posters Displayed	Foyer	1:00 p.m. — 6:00 p.m. Dr. John Linhoss, Auburn Dr. Ryan Dilger, Illinois	39
Poster Reception	Foyer	4:00 p.m. — 6:00 p.m.	

TUESDAY SESSIONS

ROOM JANUARY 24	TIME NUMBER	PAGE	NUMBER
Posters Displayed	B-313 Foyer	8:00 a.m. — Noon	
Metabolism & Nutrition VII General Nutrition	B311	8:00 a.m. — 10:45 a.m. Dr. Klint McCafferty, USDA ARS	25
SCAD II	B312	7:30 a.m. — 9:00 a.m. Dr. Rocio Crespo, NCSU	27
SCAD III	B312	9:15 a.m. — 11:00 a.m. Dr. Andrea Zedek, Zedek Consulting	28
Metabolism & Nutrition VIII Feed Additives	B313	7:45 a.m. - 11:00 a.m. Dr. Cristiano Bortoluzzi, DSM	30
Metabolism & Nutrition IX Feed Additives	B314	7:45 a.m. — 11:00 a.m. Dr. Christi Swaggerty, USDA ARS	33
Metabolism & Nutrition X Enzymes	B315	7:45 a.m. — 9:15 a.m. Dr. Yemi Burden, United Animal Health	36
Metabolism & Nutrition XI	B315	9:30 a.m. — 11:00 a.m. Dr. Juxing Chen, Novus International	37
Milton L. Dendy Keynote Lecture	B313	11:00 a.m. — Noon Dr. Danielle Graham, UARK	29
SCAD Business Meeting	B312	Noon — 1:00 p.m. Dr. Danielle Graham, UARK	
SPSS Business Meeting	B314	Noon — 1:00 p.m. Dr. Curran Gehring, Tucker Milling	

Officers of the SPSS 2022-2023

President:	Dr. Curran Gehring, Tucker Milling
First VP	Dr. Jesse Grimes, NCSU
Second VP	Dr. Roshan Adhikari, CJ America
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Executive Secretary	Dr. Mary Beck Poultry Science; Retired, Emeritus pending Mississippi State University Mail Stop 9665 Mississippi State, MS 39762
Phone:	402.540.9016
Email:	m.beck@msstate.edu

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President:	Dr. Danielle Graham, UARK
Directors:	Dr. Alejandro Banda, MS State Dr. Rocio Crespo, NCSU Dr. Kiril Dimitrov, TVMDL Dr. John Donahoe Dr. Olivia Faulkner, CEVA Dr. Joe Giambrone, Auburn Dr. Maricarmen Garcia, UGA Dr. Danielle Graham, UARK Dr. Rudiger Hauck, Auburn Dr. Mark Jackwood, UGA Dr. Brian Jordan, UGA Dr. Blanca Lupiani, Texas A&M U Dr. Ken Macklin, Auburn Dr. Mary Pantin-Jackwood, SEPRL, USDA/ARS Dr. Holly Sellers, UGA Dr. Christine Vuong, U Ark Dr. Susan Williams, UGA
Secretary / Treasurer	Dr. Susan M. Williams, UGA Department of Population Health/PDRC University of Georgia 953 College Station Road Athens, Georgia 30602-4875
Phone:	706.583.0523
Email:	smwillia@uga.edu

Teaching, Pedagogy, Extension

Moderator: Dr. Brian Fairchild, UGA

Room Number: B311

Monday, January 23, 2023

7:30 AM M1

Current perceptions, use, and needs of precision livestock farming systems

Tanner Thornton^{*GS}, Yang Zhao, Tom Tabler, Robert Burns, Shawn Hawkins *University of Tennessee-Knoxville*

7:45 AM M2

Using water usage modeling to generate alarm events related to poultry management

Will Strickland^{*GS}, Michael Czarick, Brian Fairchild, Garret Ashabranner *University of Georgia*

8:00 AM M3

Using ultrasonic water meters as management tool early in the flock

Garret Ashabranner^{*GS}, Michael Czarick, Brian Fairchild *University of Georgia*

Processing and Products

Moderator: Dr. Jordan Gruber, IFF Inc

Room Number: B311

Monday, January 23, 2023

8:15 AM M4

Stunning and neck-cutting methods impact on the overall blood loss and rate of blood loss of broiler carcasses

Rachel Osborne^{*1GS}, Caitlin Harris^{1,2}, Richard Buhr², Brian Kiepper¹ ¹*Department of Poultry Science, University of Georgia*, ²*Poultry Microbiological Safety and Processing Research Unit, U.S. National Poultry Research Center, Richard B. Russell Agricultural Research Center, USDA-ARS*

8:30 AM M5

Analysis of broiler chicken blood parameters during carbon dioxide gas stunning

Montana Riggs^{*GS}, Marco Reina, Andrea Urrutia, Juan Figueroa, Alexandra Jackson, Matthew Hughes, Brett True, Charlene Hanlon, Rüdiger Hauck, Bethany Baker-Cook, Dianna Bourassa *Auburn University*

8:45 AM M6

Application of pressurized steam and forced hot air for cleaning broiler transport cage flooring

Marco Reina^{*1GS}, Andrea Urrutia¹, Juan Figueroa¹, Montana Riggs¹, Kenneth Macklin¹, Richard Buhr², Dianna Bourassa¹ ¹*Auburn University*, ²*US National Poultry Research Center, USDA-ARS*

9:00 AM M7

Biofilm formation ability of *Campylobacter jejuni* isolated from commercial broiler processing plants.

Diksha Pokhrel^{*1GS}, Hudson Thames¹, Hailey Fugate¹, Li Zhang¹, Thu Dinh², Wes Schilling¹, Shecoya White¹, Reshma Ramachandran¹, Anuraj Sukumaran¹ ¹*Mississippi State University*, ²*Tyson Foods*

9:15 AM M8

Isolation and identification of *Salmonella* and *Campylobacter* isolates from a commercial broiler complex through pullets to final raw product

Yagya Adhikari^{*1GS}, Matthew Bailey¹, James Krehling¹, Kaicie Chasteen¹, Luis Munoz¹, Cesar Lobo¹, Leticia Galindo¹, Pankaj Gaonkar², Steven Kitchens², Dianna Bourassa¹, Stuart Price², Jeff Buhr³, Kenneth Macklin¹ ¹*Department of Poultry Science, Auburn University*, ²*Department of Pathobiology, Auburn University*, ³*USDA ARS Poultry Microbiological Safety and Processing Research Unit*

9:30 AM M9

Assessing *Salmonella* serovar dynamics through broiler processing

Amber Richards^{*1GS}, Nikki Shariat¹, USDA-FSIS Eastern Laboratory² ¹*Department of Population Health, University of Georgia*, ²*United States Department of Agriculture — Food Safety and Inspection Service (USDA-FSIS)*

9:45 AM M10

Effect of chlorhexidine salts and cetylpyridinium chloride on *Salmonella enterica* Typhimurium (ST) recovery from an in vitro crop assay

Lauren Lavery^{*GS}, Juan Latorre, Makenly Coles, Kristen Martin, Danielle Graham, Billy Hargis *University of Arkansas*

10:00 AM M11

Field survey sampling strategies identifies flow patterns of *Salmonella* to the processing plant

Jordon Gruber^{*1}, Joshua Walker², Jennifer Freezeman², Connie Mou¹, Elizabeth Kim¹ ¹*IFF/Danisco Animal Nutrition and Health*, ²*IFF Wilmington Microbiology Lab*

Monday, January 23, 2023

10:15 AM Break

Physiology, Endocrinology and Reproduction I Broilers, Turkeys

Moderator: Dr. Ramesh Selvaraj, UGA

Room Number: B311

Monday, January 23, 2023

10:30 AM M12

CO2 Incubation for Woody Breast Mitigation

Sameer Israni^{*1}, Frank Edens², Dellila Hodgson², Jenny Schlenker² ¹*Linde Inc.*, ²*North Carolina State University*

10:45 AM M13

Effect of environmental temperature on the blood chemistry of young turkeys

Rocio Crespo^{*}, Jesse Grimes *North Carolina State University*

11:00 AM M14

Comparison of standard and physiological cell culture temperatures on proliferation and differentiation of broiler chicken Pectoralis major primary muscle satellite cells

Caroline Gregg^{*GS}, Brittany Wall, Joshua Flees, Charles Starkey, Jessica Starkey *Auburn University Department of Poultry Science*

11:15 AM M15

Effect of starter diet nutrient reductions and feed form on Pectoralis major collagen infiltration and heterogeneity of muscle satellite cell and macrophage populations in young broiler chickens

Joshua Flees^{*GS}, Gerardo Abascal-Ponciano, Cristopher Almendares, Said Herrera, Diego Ventura, Charles Starkey, Jessica Starkey *Department of Poultry Science, Auburn University*

11:30 AM M16

Assessment of late-stage thermal manipulation on broiler chicken pectoralis major muscle satellite cell heterogeneity at hatch

John Rogers^{*1UG}, Jorge Banegas¹, Brittany Wall¹, Martha Rueda², Jeremiah Davis², Joseph Purswell³, Charles Starkey¹, Jessica Starkey¹ ¹*Auburn University Department of Poultry Science*, ²*Auburn University National Poultry Technology Center*, ³*USDA ARS Poultry Research Unit*

11:45 AM M17

The effect of Campylobacter jejuni challenge on the ileal microbiota and short-chain fatty acids concentration in broilers

Walid Al Hakeem^{*1GS}, Jeferson Lourenco², Emily Cason¹, Daniel Adams¹, Keila Acevedo Villanueva¹, Shahna Fathima¹, Bikas Shah¹, Revathi Shanmugasundaram³, Ramesh Selvaraj¹ ¹*Department of Poultry Science, University of Georgia*, ²*Department of Animal and Dairy Science, University of Georgia*, ³*Toxicology and Mycotoxin Research Unit, USDA-ARS*

Monday, January 23, 2023

12:00 PM LUNCH

Physiology, Endocrinology and Reproduction I Broilers, Turkeys

Moderator: Dr. Ramesh Selvaraj, UGA

Room Number: B311

Monday, January 23, 2023

1:00 PM M18

The Effect of Dietary Calcium and Phosphorus on Plasma Calcium and Phosphorus Levels

Chelsea Phillips*, Carrie Walk, Aaron Cowieson *DSM Nutritional Products*

Physiology, Endocrinology and Reproduction II Layers, Breeders

Moderator: Dr. Brian Jordan, UGA

Room Number: B311

Monday, January 23, 2023

1:15 PM M19

Bottleneck effect in indigenous chicken of Poonch region located at international border of India and Pakistan

Mandeep Azad^{*1GS}, Dibyendu Chakraborty¹, Kwardeep Kour¹, Dhirinder Kumar¹, Preeti Birwal² ¹*Sher-e-Kashmir University of Agricultural Sciences and Technology of Jammu*, ²*Punjab Agriculture University*

1:30 PM M20

Physiological changes associated with regulation of calcium utilization at the onset of egg production in commercial laying hens.

Alejandra Garcia^{*1GS}, Micaela Sindair-Black¹, Roselina Angel², Bibiana Jaramillo³, Xabier Arbe⁴, David Caverio⁴, Prafulla Regmi¹, Monika Proszkowiec-Weglarz⁵, Dima White¹, Woo Kim¹, Laura Ellestad¹ ¹*Department of Poultry Science, University of Georgia*, ²*Animal and Avian Sciences, University of Maryland*, ³*Illuma Alliance*, ⁴*H&N International*, ⁵*Animal Biosciences and Biotechnology Laboratory, USDA-ARS*

1:45 PM M21

Regulation of calcium and phosphorus homeostasis during peak egg production

Micaela Sindair-Black^{*1GS}, Alejandra Garcia¹, Roselina Angel², Bibiana Jaramillo³, Xabier Arbe⁴, David Caverio⁴, Laura Ellestad¹ ¹*Department of Poultry Science, University of Georgia*, ²*Animal and Avian Sciences, University of Maryland*, ³*Illuma Alliance*, ⁴*H&N International*

2:00 PM M22

Recovery of Salmonella injected into the albumen or yolk of hatching eggs and then cold-stored and incubation to day 18.

Caitlin Harris^{*1,2GS}, L. Nicole Bartenfeld Josselson², R. Jeff Buhr² ¹*University of Georgia*, ²*USDA-ARS National Poultry Research Center*

2:15 PM M23

Corticosterone binding globulin may regulate the stress response in broilers

Coleman Hatmaker^{*GS}, Blayne Thomason, Adam Davis, Martha Freeman *University of Georgia*

2:30 PM M24

Graded levels of Eimeria infection temporarily ceased the egg production of Hy-Line W-36 laying hens at peak production

Milan Sharma^{*GS}, Guanchen Liu, Doyun Goo, Dima White, Woo Kim *Department of Poultry Science, University of Georgia*

2:45 PM M25

The effect of dietary energy level and feed restriction on energy intake, body fat percentage, and egg production in laying hens to 50 weeks of age.

Jo Ann Chew^{*GS}, Thiago Noetzold, Martin Zuidhof *Department of Agricultural, Food and Nutritional Science, University of Alberta*

3:00 PM M26

Impact of eggshell translucency and color intensity on egg quality parameters, moisture loss, and chick weight

Leticia Orellana^{*GS}, James Krehling, Kaicie Chasteen, Marcela Quino, Carla Guardado, Luis Munoz, Yagya Adhikari, Cesar Escobar, Matthew Bailey, Ken Macklin *Auburn University*

3:15 PM M27

The effects of dry hydrogen peroxide on hatchery performance when applied in single stage incubators

Kylie Bruce^{*1GS}, Russ Stephens², Jeanna Wilson¹, Brian Jordan¹ ¹*University of Georgia*, ²*Synexis*

3:30 PM M28

Utilizing the growing feather pulp as a cutaneous test system to monitor local cellular responses to autogenous Salmonella vaccines in sensitized and non-sensitized Light-brown Leghorn pullets

Chrysta Beck^{*GS}, Jossie Santamaria, Marites Sales, Gisela Erf *University of Arkansas System, Division of Agriculture, Department of Poultry Science*

3:45 PM M29

Effect of fish meal on the semen quality of broiler breeders and Red Jungle Fowl

Emmillie Boot^{*GS}, Rebecca Wysocky, Ramon Malheiros *North Carolina State University*

4:00-6:00 Poster Reception

Pathology I

Moderator: Dr. DG Sandu, Alltech

Room Number: B312

Monday, January 23, 2023

8:00 AM M30

A comparative genomics approach to investigate virulence-associated genes in avian pathogenic *E. coli* during infection of broiler embryos

Chalise Brown^{*1GS}, Grayson Walker¹, Marion Suyemoto¹, Heather Harbottle², Jeffrey Gilbert², Marilyn Martinez², Steven Foley³, Luke Borst¹ ¹*Population Health and Pathobiology, NC State University College of Veterinary Medicine*, ²*U.S. FDA, Center for Veterinary Medicine, Office of New Animal Drug Evaluation*, ³*U.S. FDA, National Center for Toxicological Research*

8:15 AM M31

Evaluation of virulence characteristics of avian pathogenic *Escherichia coli* isolates from broiler breeders

Jiddu Joseph^{*GS}, Linan Jia, Li Zhang, Pratima Adhikari, Reshma Ramachandran *Mississippi State University*

8:30 AM M32

Effects of virulence genotype, motility, and multi-locus sequence type of *Escherichia coli* on development, mortality, yolk retention, and weight loss of chicken embryo

Fozul Ovi^{*1GS}, Linan Jia¹, Anuraj Sukumaran¹, Reshma Ramachandran¹, Douglas Cosby², Dan Wilson³, Ishab Poudel¹, Pratima Adhikari¹ ¹*Mississippi State University*, ²*USDA-Agriculture Research Service*, ³*Wilson Veterinary Co.*

8:45 AM M33

Microbial analysis of feed ingredients and manufactured animal feed

Cesar Escobar Lobo^{*GS}, Luis R. Munoz, Matthew A. Bailey, James T. Krehling, Wilmer J. Pacheco, Ruediger Hauck, Kenneth S. Macklin *Auburn University*

9:00 AM M34

Effect of *Salmonella* challenge doses and times on *Salmonella* colonization in turkey poults

Hanseon Ko^{*GS}, Doyun Goo, Hanyi Shi, Woo Kyun Kim *University of Georgia*

9:15 AM M35

Effect of a triple-strain *Bacillus*-based probiotic on in vitro inhibition of *Enterococcus cecorum* isolated from broilers raised in commercial farms

Antoine Meuter^{*1}, Dorthe Sandvang¹, Line Skjoet-Rasmussen¹, Douglas Duane-Rhoads² ¹*Chr. Hansen, A/S*, ²*Arkansas University*

9:30 AM M36

Virulence of *Enterococcus cecorum* strains associated with pericarditis and early mortality in broilers

Grayson Walker^{*GS}, M Suyemoto, Chalise Brown, Luke Borst *North Carolina State University College of Veterinary Medicine*

9:45 AM M37

Evaluation protection of H5 vaccination regimes against early challenge with HPAI-H5N8 Clade 2.3.4.4

Wael Elfeil^{*1}, Mohamed Rady², Magdy Elkady³, Walid Kilany², Mohamed Hamoud⁴ ¹*Avian and Rabbit Medicine Department, Faculty of Veterinary Medicine, Suez Canal University*, ²*Animal Health Research Institute, Agriculture Research Center*, ³*Department of Poultry Diseases, Faculty of Veterinary Medicine, Beni-Suef University*, ⁴*Department of Poultry and Rabbit Diseases, Faculty of Veterinary Medicine, Cairo University*

10:00 AM Break

Pathology II

Moderator: Dr. Eniope Oluwayinka, UGA

Room Number: B312

Monday, January 23, 2023

10:15 AM M39

Genotypic characterization of infectious bursal disease viruses (IBDV) detected in the Americas between 2019 to 2022.

Hugo Ramirez^{*1GS}, Fernando Vargas², Lucas Colvero³, Francisco Rios⁴, Jesus Cabriaes⁴, Rosmar Marcano⁴, Cesar Reyes⁵, Pablo Nervi⁶, Martha Pulido - Landinez¹, Alejandro Banda¹ ¹Mississippi State University, ²Merck AH US, ³MSD AH Brazil, ⁴MSD AH México, ⁵MSD AH Perú, ⁶MSD AH Argentina

10:30 AM M40

Assessing the effect of time of infection with *Cochlosoma anatis* in turkey poults on flock uniformity and gut health.

Justin Lowery^{*1GS}, Catherine Fudge², Christina Sigmon¹, Zohreh Mehdipour¹, Jasmine Wiitala¹, Chongxiao (Sean) Chen², Lin Walker¹ ¹North Carolina State University, ²University of Georgia

10:45 AM M41

The cytology of resting and reactive NK cells of chickens; implications in H/L computation

Paul Cotter*, Kathleen Cotter *Cotter Laboratory*

11:00 AM M42

Campylobacter jejuni infection induces immune responses in HD11 avian macrophage cells

Sabin Poudel^{*1GS}, Linan Jia¹, Chuan-Yu HSu², Cheng Wen-Hsing³, Pratima Adhikari¹, Aaron Kiess⁴, Li Zhang¹ ¹Department of Poultry Science, Mississippi State University, ²Institute for Genomics, Biocomputing, and Biotechnology, Mississippi State University, ³Department of Food Science, Nutrition, and Health Promotion, Mississippi State University, ⁴Prestage Department of Poultry Science, North Carolina State University

11:15 AM M43

Characterizing the proteome of bacterial chondronecrosis with osteomyelitis (BCO) lesions in broiler's proximal tibiae — implications for novel molecular pathways in lameness

Alison Ramser^{*1}, Sami Dridi¹, Elizabeth Greene¹, Garrett Mullenix¹, Jalila Dridi², Rohana Liyanage¹, Jennifer Cook¹, Robert Wideman¹ ¹University of Arkansas, Center of Excellence for Poultry Science, ²École Universitaire de Kinésithérapie

11:30 AM M44

Curcumin reduces enteric isoprostane 8-iso-PGF₂α and prostaglandin GF₂α in specific pathogen-free Leghorn chickens challenged with *Eimeria maxima*

Victor Petrone-Garcia¹, Raquel Lopez Arellano¹, Juan Latorre², Inkar Castellanos-Huerta¹, Billy Hargis², Guillermo Tellez-Isaias^{*2} ¹National Autonomous University of Mexico, ²University of Arkansas

11:45 AM M45

Saponin-rich plants mixture (Norponin® XO2) supports coccidiosis vaccination program in broiler chickens

Iraida Rosario Huamancoli¹, Susana Fribourg², Robert Saavedra², Juan Manuel Garcia³, Mohammed el Amine BENARBA^{*3,4} ¹UNIVERSIDAD NACIONAL AGRARIA LA MOLINA, ²ADISENS / Los Sauces, ³NOR FEED SAS, ⁴LABCOM FEED IN TECH: Université d'Angers

12:00 Noon Lunch

SCAD I

Moderator: Dr. Danielle Graham, UARK

Room Number: B312

Monday, January 23, 2023

1:00 PM M46

Prophylactic efficacy of paromomycin (liquid form) against *Histomonas meleagridis* challenge in turkeys

Vijay Durairaj*, Andrea Brake, Ryan Vander Veen *Huvepharma, Inc.*,

1:15 PM M47

Characterizing the o-serogroups of avian pathogenic *E. coli* (APEC) associated with colibacillosis in Georgia poultry production and their relationship with production types.

Klao Runcharoon*^{GS}, Meaghan Young, Bellanirys Garcia, Nicolle Barbieri, Catherine Logue
Department of Population Health, College of Veterinary Medicine, University of Georgia

1:30 PM M48

A novel presentation of focal ulcerative dermatitis syndrome (FUDS) in broiler breeder hens

Gunnar Dunnam*^{1GS}, Andrew Bishop², Martha Frances Dalton³, Jay Kay Thornton¹, Rebecca Mackey¹, Alejandro Banda¹, Martha Pulido-Landinez¹ ¹*Mississippi State University Poultry Research and Diagnostic Laboratory*, ²*Amick Farms*, ³*Mississippi State Veterinary Research and Diagnostic Laboratory*

1:45 PM M49

Parenteral application of live *E. coli* and *Salmonella* Typhimurium vaccines as a tool to improve immune response

Manuel Da Costa*, Kalen Cookson, John Dickson, Jon Schaeffer *Zoetis - U.S. Poultry*

2:00 PM M50

The impact of *Salmonella* Typhimurium and coccidiosis vaccine on the cecal transcriptome in broiler chickens

Andrea Pietruska*^{1GS}, Steven Kitchens¹, James Krehling², Ken Macklin², Stuart Price¹, Zubair Khalid¹, Maria Terra-Long², Teresa Dormitorio², Ruediger Hauck^{1,2} ¹*Department of Pathobiology, Auburn University*, ²*Department of Poultry Science, Auburn University*

2:15 PM M51

Evaluation of a blend of organic acids and essential oil in the drinking water during a *Salmonella* Heidelberg challenge in broilers

Jonathan Broomhead*¹, Charles Hofacre², Matthew Jones² ¹*Perstorp Animal Nutrition*, ²*Southern Poultry Research Group, Inc.*

2:30 PM M52

The Effect of *Salmonella* autogenous vaccination on serotype surveillance, recovery, and phenotypic characteristics

Emily Robinett*, Marshall Putnam, Robert Beckstead *Ceva Animal Health*

2:45 PM M53

Campylobacter hepaticus in Georgia layers — what have we learned so far

Catherine Logue*, Roel Becerra, Julia Lima *University of Georgia*

3:00 PM M54

Understanding the transmission of Spotty Liver Disease (SLD) associated with *Campylobacter* hepaticus from wild birds using finches as a model.

Roel Becerra*^{GS}, Catherine M. Logue *University of Georgia*

3:15 PM M55

Complete genome sequencing and comparison of *Campylobacter* hepaticus isolated from organic pasture-raised chickens

Julia Ienes-Lima*^{GS}, Roel Becerra, Jenny Nicholds, Catherine Logue *Poultry Diagnostic and Research Center, College of Veterinary Medicine, University of Georgia*

3:30 PM M56

Influence of avian reovirus infection on the intestinal microbiome

Zubair Khalid*^{1GS}, Andrea Pietruska¹, Erfan Chowdhury², Rüdiger Hauck¹ ¹*Department of Pathobiology, College of Veterinary Medicine, Auburn University*, ²*Thompson Bishop Sparks State Diagnostic Laboratory*

3:45 PM M57

Enhanced cross protection after simultaneous vaccination with live infectious bronchitis virus (IBV) Massachusetts and recombinant Newcastle disease virus expressing Arkansas-type IBV spike

Raimundo Espejo*^{GS}, Cassandra Breedlove, Kellye Joiner, Haroldo Toro *Auburn University*

4:00-6:00 Poster Reception

Metabolism and Nutrition I General Nutrition

Moderator: Dr. Jordyn Samper, Orffa

Room Number: B313

Monday, January 23, 2023

7:30 AM M58

Effects of unused restaurant and bakery food products as protein supplements on laying hen production parameters and USDA egg size

Alea Belflowers^{*GS}, Benjamin Alig, Kari Harding, Dimitri Malheiros, Emmillie Boot, Bhavisha Gulabrai, Madison Spangle, Kenneth Anderson, Ramon Malheiros *Prestage Department of Poultry Science, North Carolina State University*

7:45 AM M59

Interactive effects of feeding naturally-contaminated corn distillers dried grains with solubles and Eimeria infection on egg production and gut health in laying hens

Deependra Paneru^{*GS}, Milan Sharma, Doyun Goo, Janghan Choi, Woo Kim *University of Georgia*

8:00 AM M60

Evaluation of corn particle size on the growth performance, gut permeability, pellet quality, and litter moisture of turkey hens raised without antibiotics

Alyssa Lyons^{*1GS}, Joe Moritz², Tim Boltz³, John Boney⁴, Michael Persia¹ *¹Virginia Tech, ²West Virginia University, ³Mississippi State University, ⁴The Pennsylvania State University*

8:15 AM M61

Sample size, selection criteria, and personnel impact on processing metric variance in nutrition research

Caleb Marshall^{*1GS}, Nickki Tillman², Kelley Wamsley¹ *¹Department of Poultry Science, Mississippi State University, ²Nutritional Statistics LLC*

8:30 AM M62

Phosphorus utilization of faba bean and field pea for broiler chickens using a regression method

Abidemi Adekoya^{*GS}, Olayiwola Adeola *Purdue University*

8:45 AM M63

Relationship between viscosity of digesta and development of the gastrointestinal tract of broiler chickens

Emmanuel Alagbe^{*1GS}, Patricia Jaynes¹, Chansol Park², Olayiwola Adeola¹ *¹Purdue University, ²Pathway Intermediates*

9:00 AM M64

Nutrient, starch and energy utilization along the digestive tract and their impacts on cecal short chain fatty acid production in broiler chickens receiving different types and graded dietary levels of resistant starches

Iyabo Oluseyifunmi^{*1GS}, Jeferson Lourenco², Oluyinka Olukosi¹ *¹Department of Poultry Science, University of Georgia, ²Department of Animal and Dairy Science, University of Georgia*

9:15 AM M65

Energy utilization and ileal amino acids digestibility of cereal grains for broiler chickens

June Hyeok Yoon^{*GS}, Changsu Kong *Kyungpook National University*

9:30 AM M66

Field traits, fumonisins concentration, nutrient composition and digestible amino acids of different types of corn for poultry

Cristina Simoes^{*1GS}, Juliano Vidal¹, Janine Sarturi¹, Isadora Laber¹, Cristiane da Silva¹, Denize Tyska², Tiago Madalosso³, Carlos Mallmann¹ *¹Federal University of Santa Maria, ²Pegasus Science, ³Cooperativa Agroindustrial Consolata*

9:45 AM M67

Effect of sorghum-based conventional diets with or without phytase superdosing on broiler performance

Santiago Sasia^{*1GS}, Brett Lumpkins², Mireille Arguelles-Ramos¹ *¹Clemson University, ²Southern Poultry Feed and Research, Inc.*

10:00 AM Break

Metabolism and Nutrition II General Nutrition

Moderator: Dr. Chad Paulk, KSU

Room Number: B313

Monday, January 23, 2023

10:15 AM M68

Comparative impact of incorporation of specialty protein feedstuffs and antibiotic growth promoters in broiler chicken starter feeding program on growth performance through to 49 days of age

Anastasia Tsementzis*^{1GS}, Anderson Maina¹, Colin De Cloet¹, David Trott², Lee-Anne Huber¹, Elijah Kiarie¹ ¹*University of Guelph*, ²*Wallenstein Feed & Supply Ltd.*

10:30 AM M69

Evaluation of dietary nutrient reduction on broiler chicken growth performance, carcass characteristics, and breast meat quality defects

Brittany Wall*^{GS}, Caroline Gregg, Joshua Flees, Cristopher Almendares, Orlando Fiallos, Charles Starkey, Jessica Starkey *Auburn University Poultry Science Department*

10:45 AM M70

Impact of moisture at harvest and drying temperature on quality parameters, and nutrient content of corn varieties

Joaquin Cabanas-Ojeda*^{1GS}, Nicolas Mejia-Abaunza¹, Paula Lozano-Cruz¹, Valmiro Lima Aragão Neto¹, Muhammad Ali¹, Maria Camila Alfaro-Wisaquillo¹, Gustavo Quintana-Ospina¹, Gilson Gomez², Edgar Oviedo-Rondon¹ ¹*Prestage Department of Poultry Science, North Carolina State University*, ²*AB Vista*

11:00 AM M71

Nitrogen correction of true metabolizable energy values for poultry feed ingredients

Reed Dillard*^{GS}, Nicholas Dale, Adam Davis *The University of Georgia*

11:15 AM M72

Effect of dietary metabolizable energy levels and conditioning temperature on broiler performance, processing yield and footpad dermatitis from 1 to 42 days of age

Jose Hernandez*^{1GS}, Joseph Gulizia¹, Jose Vargas¹, Susan Bonilla¹, Sureerat Thuekeaw², Wilmer Pacheco¹ ¹*Auburn University*, ²*Chulalongkorn University*

11:30 AM M73

Nitrogen corrected apparent metabolizable energy (AMEn) and apparent ileal digestibility (AID) of amino acids (AA) of thermally processed food waste for broilers

Nelsa Beckman*^{GS}, Haley Otott, Allison Blomme, Patrick Badger, Liberty Thompson, Phillip Lancaster, Yi Zheng, Raghavendra Amachawadi, Melissa Schrader, Charles Stark, Chad Paulk *Kansas State University*

11:45 AM M74

Influence of perennial wheat grass screenings and exogenous carbohydrase inclusion on broiler performance.

Mason Engnell*^{GS}, Nelsa Beckman, Haley Otott, Charles Stark, Chad Paulk *Kansas State University*

Monday, January 23, 2023

12:00 PM Lunch

Metabolism and Nutrition II General Nutrition

Moderator: Dr. Chad Paulk, KSU

Room Number: B313

Monday, January 23, 2023

1:00 PM M75

Effect of feed retention time in the conditioner and conditioning temperature on pellet mill throughput and pellet durability index (PDI)

Carter Minson^{*UG}, Haley Otott, Charles Stark, Chad Paulk *Kansas State University*

1:15 PM M76

Effects of grinding kernza[®] grain with different hammermill screen sizes on subsequent particle size and flowability

Walter Friesen^{*UG}, Chad Paulk, Haley Otott, Charles Stark *Kansas State University*

1:30 PM M77

Effects of AZOMITE (AZO) and distiller's dried grains with solubles (DDGS) inclusion on pellet mill electrical efficiency and subsequent pellet quality

Patrick Badger^{*IGS}, Charles Stark¹, Jerry Shepherd², Michael Sodak², Kyle Coble², Maks Kapetanovich², Chad Paulk¹ ¹*Kansas State University*, ²*JBS Live Pork*

Metabolism and Nutrition III Vitamins, Minerals

Moderator: Dr. Sam Rochell, Auburn

Room Number: B313

Monday, January 23, 2023

1:45 PM M78

Phosphorus digestibility responses of broiler chickens to autoclaving of feed ingredients

Vitor Santos Haeringer^{*GS}, Olayiwola Adeola *Purdue University*

2:00 PM M79

Growth performance, bone characteristics, and nutrient utilization of broiler chickens fed graded levels of calcium and phytase during the starter phase

Opeadura Osunbami^{*1GS}, Olayiwola Adeola¹, Carrie Walk² *¹Purdue University, ²DSM Nutritional Products*

2:15 PM M80

Effects of phytase and 25-OHD fed to calcium and phosphorous-reduced diet on growth performance, body composition, and bone quality of broilers challenged with *Eimeria* spp.

Hanyi Shi^{*GS}, Woo Kyun Kim *University of Georgia*

2:30 PM M81

Determination of ileal digestible phosphorous from several inorganic phosphate sources and two meat and bone meals in 3 week old broilers

Jay Hampton^{*3GS}, Wenting Li¹, Franco Mussini¹, Katie Hilton¹, Janet Remus¹, Samuel Rochell²

¹Danisco Animal Nutrition and Health, IFF Nutrition & Biosciences, ²Auburn University, ³University of Arkansas

2:45 PM M82

The effects of feeding different zinc, manganese, and copper sources and phytase levels on the growth performance and sustainability of 42-day-old broilers administered a coccidiosis vaccine

Macey Randig-Biar^{*1GS}, Rosana Hirai¹, Daniel De Leon¹, Austin Silva¹, Raquel Konrad Burin², Marco Rebollo², Duarte Neves², Leonardo Linares², Audrey McElroy¹ *¹Texas A&M University, ²Zinpro Corporation*

3:00 PM M83

Does Zn source and dietary level influence the phytase effect on growth performance, blood minerals and bone ash in broiler chickens?

Hanna Philipp^{*1,2GS}, Vera Sommerfeld¹, Alessandra Monteiro³, Oluyinka Olukosi², Markus Rodehutschord¹ *¹University of Hohenheim, ²University of Georgia, ³Animine*

3:15 PM M84

Determining the bioavailability of Vitamin A acetate concentrates mixed in a vitamin-mineral premix after a 56-day temperature and humidity storage stress

Daniel De Leon^{*1GS}, Rosana Hirai¹, Austin Silva¹, Ervey Sanchez¹, Macey Biar¹, Audrey McElroy¹, Christopher Bailey¹, Nicolas Martinez², Adebayor Sokale², Lawrie Music² *¹Texas A&M AgriLife Research, ²BASF Corporation*

3:30 PM M85

Hatching egg quality of broiler breeders fed diets supplemented with conventional free or lipid microencapsulated premix forms of trace minerals at standard or high levels

Dimetri Malheiros^{*1GS}, Ramon Malheiros¹, Kenneth Anderson¹, Ondulla Toomer², Peter Ferket¹ *¹North Carolina State University, ²USDA*

4:00-6:00 Poster Reception

Metabolism and Nutrition IV Amino Acids, Enzymes

Moderator: Dr. Joe Moritz, WVU

Room Number: B314

Monday, January 23, 2023

7:30 AM M86

Delineating the phase-specific effects of functional amino acids during infection and recovery of broiler chickens challenged with a mixed coccidian infection

Adeleye Ajao^{*1GS}, Guanchen Liu¹, James Taylor², Todd Applegate¹, Ramesh Selvaraj¹, M.E.E. Ball², Ilias Kyriazakis^{2,3}, Woo Kim¹, Oluyinka Olukosi¹ ¹*University of Georgia*, ²*Agri-Food & Biosciences Institute (AFBI)*, ³*Institute for Global Food Security, Queen's University*

7:45 AM M87

The effects of arginine and branched chain amino acids supplementation in low protein diet on intestinal permeability, histology and tight junction protein expression in broiler chickens challenged with *Eimeria* spp.

Guanchen Liu^{*1GS}, Adeleye Ajao¹, James Taylor², Todd Applegate¹, Ramesh Selvaraj¹, Elizabeth Ball³, Ilias Kyriazakis², Oluyinka Olukosi¹, Woo Kim¹ ¹*Department of Poultry Science, University of Georgia*, ²*Institute for Global Food Security, Queen's University*, ³*Agri-Food & Biosciences Institute (AFBI)*

8:00 AM M88

Interactive effects of dietary isoleucine and valine ratios to lysine in response to varying leucine to lysine ratios on jejunal protein expression in commercial broilers

Diego Ventura^{*1GS}, Cristopher Almendares¹, Ruben Kriseldi², Alejandro Corzo², Roshan Adhikari³, Jason Lee³, Chance Williams⁴, Charles Starkey¹, Jessica Starkey¹ ¹*Department of Poultry Science, Auburn University*, ²*Aviagen*, ³*C. J. Bio America*, ⁴*Wayne-Sanderson Farms*

8:15 AM M89

Interactive effects of dietary isoleucine and valine ratios to lysine in response to varying leucine to lysine ratios on Pectoralis major protein expression in commercial broilers

Cristopher Almendares^{*1GS}, Diego Ventura¹, Ruben Kriseldi², Alex Corzo², Roshan Adhikari³, Jason Lee³, Chance Williams⁴, Charles Starkey¹, Jessica Starkey¹ ¹*Department of Poultry Science, Auburn University*, ²*Aviagen*, ³*C.J. Bio America*, ⁴*Wayne-Sanderson Farms*

8:30 AM M90

The effects of hygienic pelleting in diets that differ in amino acid density on Ross 708 broiler performance, amino acid apparent ileal digestibility, and requirement

elizabeth lynch^{*GS}, kristina bowen, tim boltz, victoria ayres, joseph moritz *west virginia university*

8:45 AM M91

The influence of dietary glycine concentration in reduced crude protein diets with different Met to Cys ratios fed to broilers

Trevor Lee^{*1GS}, Kentu Lassiter¹, Walter Bottje¹, Samuel Rochell² ¹*Center of Excellence for Poultry Science, University of Arkansas System Division of Agriculture*, ²*Auburn University*

9:00 AM M92

Interactive effects of stimbiotic supplementation and wheat bran inclusion in corn or wheat-based diets on glucose and amino acids transporters, ileal oligosaccharides profile, and ceca protein content

Shravani Veluri^{*1GS}, Oluyinka Olukosi¹, Mike Bedford², Gemma Gonzalez-ortiz² ¹*University of Georgia*, ²*AB Vista and Feed Ingredients*

9:15 AM M93

Dietary supplementation of monosodium phosphate and exogenous phytase effects on growth, ileal phosphorus digestibility, and bone characteristics in broiler chickens

Jung Yeol Sung^{*1GS}, Brittney Emmert¹, Darrin Karcher¹, Carrie Walk², Olayiwola Adeola¹ ¹*Purdue University*, ²*DSM Nutritional Products*

9:30 AM M94

Impact of a cellulase-xylanase enzyme supplementation on performance and intestinal health in pullets fed almond hulls

Nelly Cribillero^{*1GS}, Craig Wyatt², Kelley Wamsley¹, Timothy Boltz¹, Pratima Adhikari¹ ¹*Poultry Science Department, Mississippi State University*, ²*AB Vista Feed Ingredients*

9:45 AM M95

Role of phytase and limestone particle size ratios on performance, egg breaking strength and gizzard pH and inositol levels of late-lay phase of single cycled laying hens

Charis Waters^{*1GS}, Kelley Wamsley¹, Michael Elliot², Mike Bedford³, Craig Wyatt³, Pratima Adhikari¹ ¹*Mississippi State University*, ²*A&E Nutrition Services, LLC*, ³*AB Vista Feed Ingredients*

10:00 AM Break

Metabolism and Nutrition V Feed Additives

Moderator: Dr. Timothy Boltz, MSSTATE

Room Number: B314

Monday, January 23, 2023

10:15 AM M96

Detection of antimicrobial resistance genes in *Lactobacillus* spp. from poultry probiotic products and their horizontal transfer among *Escherichia coli*

Md. Rokon-Uz-Zaman^{*IGS}, Anica Bushra, Tanjida Pospo, Monika Runa, Sadia Tasnuva, Mst. Sonia Parvin, Md. Taohidul Islam *Bangladesh Agricultural University*

10:30 AM M97

Butyrate affects chicken monocyte-like cell cycle progression.

Famatta Perry^{*IGS}, Cristiano Bortoluzzi², Jeyashree Nathan Elango¹, Ayiana James¹, Emma Jones³, Cinthia Eyng⁴, Mike Kogut⁴, Ryan Arsenault¹ ¹*University of Delaware*, ²*Texas A&M University*, ³*University of Maryland Eastern Shore*, ⁴*USDA-ARS, Southern Plains Agricultural Research Center*

10:45 AM M98

Effects of red osier dogwood extract and grape pomace on growth performance, blood biochemistry, immune response, and antioxidant capacity of broiler chickens challenged with heat stress.

FISAYO AKINYEMI^{*IGS}, Deborah Adewole *Dalhousie University*

11:00 AM M99

Effects of in ovo injection of xylobiose and xylotriose on growth performance, carcass traits, and immune-related gene expression of broilers

Razib Das^{*IGS}, Pravin Mishra, Birendra Mishra, Rajesh Jha *Department of Human Nutrition, Food and Animal Sciences, College of Tropical Agriculture and Human Resources, University of Hawaii at Manoa*

11:15 AM M100

Individual and combined effects of phytase and butyric acid on performance and processing yield of YPM x Ross 708 male broilers reared to 42 days of age

Joseph P. Gulizia^{*IGS}, Jose I. Vargas¹, Susan M. Bonilla¹, Jose R. Hernandez¹, Sureerat Thuekeaw², Ruediger Hauck^{1,3}, Ken Macklin¹, William A. Dozier, III¹, Klint W. McCafferty⁴, Wilmer J. Pacheco¹ ¹*Department of Poultry Science, Auburn University*, ²*Department of Animal Husbandry, Faculty Veterinary Science, Chulalongkorn University*, ³*Department of Pathobiology, Auburn University*, ⁴*USDA-ARS Poultry Research Unit*

11:30 AM M101

Effects of phytase in combination with a direct fed microbial (DFM) and a xylanase on broiler chicken performance, apparent metabolizable energy (AMEn), ileal P, Ca, and amino acid digestibility (AAD).

Cooper Fritzlen^{*IGS}, Nathaniel Barrett¹, Brain Glover², Jose Charal², Milan Hruby², Michael Persia¹ ¹*Virginia Tech*, ²*ADM Animal Nutrition*

11:45 AM M102

The effect of a dacitic (rhyolitic) tuff breccia (Azomite®) in corn, soybean, and DDGS based diets across pellet die size on production rate and pellet quality under a constant mill load.

Lucas Knarr^{*IGS}, Kristina Bowen¹, Jon Ferrel², Joe Moritz¹ ¹*West Virginia University*, ²*Azomite Mineral Products*

Monday, January 23, 2023

12:00 PM Lunch

Metabolism and Nutrition VI Feed Additives

Moderator: Dr. Timothy Johnson, Purdue

Room Number: B314

Monday, January 23, 2023

1:00 PM M103

The impact of antibiotic growth promoters on intestinal function during a subclinical necrotic enteritis challenge in broilers

Shailes Bhattarai^{*GS}, Laura Ellestad *University of Georgia*

1:15 PM M104

Effect of synbiotic supplementation on production performance and necrotic enteritis severity in broilers under an experimental necrotic enteritis challenge

Bikas Shah^{*1GS}, Walid Al Hakeem¹, Shahna Fathima¹, Revathi Shanmugasundaram², Ramesh Selvaraj¹ *Department of Poultry Science, The University of Georgia*, ²*Toxicology and Mycotoxin Research Unit, USDA-ARS*

1:30 PM M105

Cecal microbiota profile of broiler chickens raised under different antimicrobial feeding programs

Philip Mak^{*1,2GS}, Lisa Bean-Hodgins³, Elijah Kiarie², Dion Lepp¹, Moussa Diarra¹ *Guelph Research and Development Centre, Agriculture and Agri-Food Canada (AAFC)*, ²*Department of Animal Biosciences, University of Guelph*, ³*New-Life Mills, A division of Parrish & Heimbecker*

1:45 PM M106

Gut health of broiler fed enzymes treated or untreated cranberry pomace in a *Eimeria* spp. challenge model.

Aline Pereira^{*1GS}, Bruna Belote², Moussa Diarra³, Kely Ross⁴, Qi Wang³, Elijah Kiarie¹ *University of Guelph*, ²*ISI Institute*, ³*Guelph Research and Development Centre, Agriculture and Agri-Food Canada*, ⁴*Summerland Research and Development Centre, Agriculture and Agri-Food Canada*

2:00 PM M107

In-feed bacitracin methylene disalicylate impaired microbial function and increased antibiotic resistance in cecal microbiota of turkey in a dose dependent manner

Paul Oladele^{*1GS}, Carmen Wickware^{1,2}, Julian Trachsel², Torey Looft², Timothy Johnson¹ *Department of Animal Sciences, Purdue University*, ²*National Animal Disease center, Agricultural Research Service, United States Department of Agriculture*

2:15 PM M108

Evaluation of dietary plasma fed to turkeys during brooding on performance to market age.

Ashley Gernat^{*1GS}, Joy Campbell², Adam Fahrenholz¹, Jesse Grimes¹ *North Carolina State University*, ²*APC Proteins*

2:30 PM M109

Impact of feeding sources of α -linolenic acid and yeast bioactives on growth and development of egg-type Lohmann LSL-Lite pullets from hatch through to 16 weeks of age

Junhyung Lee^{*GS}, Veronica Cheng, Elijah Kiarie *University of Guelph*

2:45 PM M110

Effect of a glycan microbial metabolic modulator on fecal shedding and tissue translocation of *Salmonella* Enteritidis in laying hen

Ishab Poudel^{*1GS}, Murtala Umar-Faruk², Fernando Cisneros-Gonzalez², Aaron Kiess³, Li Zhang¹, Pratima Adhikari¹ *Department of Poultry Science, Mississippi State University*, ²*DSM Nutritional Products AG*, ³*Prestage Department of Poultry Science, North Carolina State University*

3:00 PM M111

A microencapsulated blend of thymol and organic acids can control necrotic enteritis caused by *Clostridium perfringens* in broiler chickens

Benedetta Tugnoli^{*1}, Andrea Piva^{1,2}, Brett Lumpkins³, Ester Grilli^{2,4} *Vetagro S.p.A.*, ²*University of Bologna DIMEVET*, ³*Southern Poultry Feed and Research, Inc.*, ⁴*Vetagro, Inc.*

3:15 PM M112

IMW50® association with essential oil and probiotic prevents negative effects of necrotic enteritis on broilers

Ricardo Barbalho¹, Melina Bonato^{*1}, Fernando Souza¹, Lucio Araujo², Aaron Kiess³, Claudia Castaneda⁴, Caio Barbalho², Raquel Carvalho² ¹*ICC Industrial Comercio Exportacao Importacao S.A.*, ²*Faculty of Animal Science and Food Engineering, University of Sao Paulo*, ³*North Caroline State University*, ⁴*Mississippi State University*

3:30 PM M113

The impact of monoglyceride blend on improving broiler performance during necrotic enteritis challenge

Jundi Liu^{*1}, Matthew Jones², Ross Wolfenden¹, Charles Hofacre² ¹*Eastman Chemical Company*, ²*Southern Poultry Research Group, Inc.*

3:45 PM M114

Evaluation of a monoglyceride blend on broiler performance during necrotic enteritis challenge in battery cages

Danielle Graham^{*1}, Jundi Liu², Ross Wolfenden², Billy Hargis¹ ¹*Department of Poultry Science, University of Arkansas Division of Agriculture*, ²*Animal Nutrition BU, Eastman Chemical Company*

4:00-6:00 Poster Reception

Environment/Management I Animal Well-being

Moderator: Dr. Jeanna Wilson, UGA

Room Number: B315

Monday, January 23, 2023

8:00 AM M115

The effects of varying methods of depopulation on laying hen gene expression

Kari Harding^{*1GS}, Rebecca Wysocky¹, Shelly Nolin¹, Ramon Malheiros¹, Sanjay Shah², Kenneth Anderson¹ ¹*Prestage Department of Poultry Science, North Carolina State University*, ²*Biological and Agricultural Engineering, North Carolina State University*

8:15 AM M116

Tracking cage-free laying hens on litter floor with machine vision

Xiao Yang^{*GS}, Ramesh Bist, Sachin Subedi, Lilong Chai *Department of Poultry Science, University of Georgia*

8:30 AM M117

Investigation of stocking density, age, and time of day on behavior profiles and aggression of white egg layer hens housed in colony cages

Benjamin Alig^{*GS}, Kenneth Anderson, Allison Pullin, Ramon Malheiros *Prestage Department of Poultry Science, NC State University*

8:45 AM M118

Keel bone tracking from rearing to laying phase for understanding bone mineralization and 3-D structural development

Dima White^{*GS}, Woo Kim *University of Georgia*

9:00 AM M119

Effect of oxidative stress on broiler bone homeostasis

Yuguo Tompkins^{*GS}, Woo Kim *University of Georgia*

9:15 AM M120

Body composition and reproductive differences between broiler breeders fed under everyday or skip-a-day rearing programs

Luis Avila^{*GS}, Kelly Sweeney, Camille Evans, Dima White, Woo Kim, Prafulla Regmi, Jeanna Wilson *University of Georgia Department of Poultry Science*

9:30 AM M121

Cecal microbiota transplantation: Modulation of aggressive behavior through the crosstalk between central serotonergic activity and gut microbiota in roosters

Yuechi Fu^{*1GS}, Jiaying Hu¹, Marisa Erasmus¹, Timothy Johnson¹, Heng-wei Cheng² ¹*Department of Animal Sciences, Purdue University*, ²*Livestock Behavior Research Unit, USDA-ARS*

9:45 AM M122

Evaluating broiler welfare and behavior as affected by growth rate and stocking density via PLF technologies

Shengyu Zhou^{*GS}, Pattarawan Watcharaanantapong, Xiao Yang, Tom Tabler, Jun Lin, Maria Prado, Hao Gan, Yang Zhao, Tanner Thornton *The University of Tennessee*

10:00 AM Break

Environment/Management II Animal Well-being

Moderator: Dr. Prafulla Regmi, UGA

Room Number: B315

Monday, January 23, 2023

10:15 AM M123

Comparison of skeletal and cardiac parameters in commercial broilers raised using a standard or slow growth rate

Nabin Neupane^{*GS}, Laura Ellestad, Robson Giglio, Prafulla Regmi *University of Georgia*

10:30 AM M124

Environmental enrichments affect behavior and plasma corticosterone levels in broiler breeder pullets

Camille Evans^{*GS}, Luis Avila, Lauren Vaccaro, Laura Ellestad, Jeanna Wilson, Prafulla Regmi
Department of Poultry Science, University of Georgia

10:45 AM M125

Effect of ultraviolet radiation on reducing airborne *Escherichia coli* carried by poultry litter particles

Xuan Dung Nguyen^{*1}, Yang Zhao¹, Jeffrey Evans², Jun Lin¹, Brynn Voy¹, Joseph Purswell²
¹*Department of Animal Science, The University of Tennessee*, ²*Poultry Research Unit, Agriculture Research Service, United States Department of Agriculture (USDA)*

11:00 AM M126

Effect of dimming wave characteristics on lamp performance

Joseph Purswell^{*1}, Jeremiah Davis², Jesse Campbell², Matthew Rowland¹, Klinton McCafferty¹
¹*USDA-ARS Poultry Research Unit*, ²*Auburn University*

11:15 AM M127

Potential epigenetic effects of heat stress on ACTH response in F1 offspring of breeder Pekin ducks.

Esther Oluwagbenga¹, Jenna Schober¹, Victoria Tetel¹, Daniel Shafer², Steven Corbitt², Gregory Fraley^{*1} ¹*Purdue University*, ²*Maple Leaf Farms, Inc.*

11:30 AM M128

Effect of some phytochemicals on growth performance, serum biochemistry, and antioxidant status in broilers during summer stress

Mounika Thota¹, Srilatha Mangalam¹, Srinivas Gurram¹, Bhaskar Ganguly^{*2} ¹*P. V. Narasimha Rao Telangana Veterinary University*, ²*Ayurvet Limited*

11:45 AM M129

Environmental conditions shape the gut microbiome of broiler chickens

Benjamin Zwirzitz¹, Adelumola Oladeinde^{*2}, Jasmine Johnson³, Gregory Zock³, Marie Milfort³, Lorraine Fuller³, Ahmed Ghareeb³, James Foutz⁴, Jose Teran³, Reed Woyda⁵, Zaid Abdo⁵, Jodie Lawrence², Denice Cudnik², Samuel Aggrey³ ¹*University of Natural Resources and Life Sciences*, ²*US National Poultry Center*, ³*University of Georgia*, ⁴*Boehringer Ingelheim Animal Health (BIAH)*, ⁵*Colorado State University*

Monday, January 23, 2023

12:00 PM Lunch

Environment/Management III Animal Well-being

Moderator: Dr. Victoria Ayres, TN Tech

Room Number: B315

Monday, January 23, 2023

1:00 PM M130

Heating system and feed additive effects on foot pad quality, broiler performance, and immune status

Victoria Ayres^{*1}, Timothy Boltz², Shawn Grushecky³, Jingxin Wang³, Joseph Moritz³ ¹*Tennessee Tech University*, ²*Mississippi State University*, ³*West Virginia University*

1:15 PM M131

Effect of environmental enrichments on behavior, leg and mental health of broilers in the commercial houses

Seong Kang^{*1}, Karen Christenson², Michael Kidd Jr¹, Sara Orlowski¹, James Clark² ¹*University of Arkansas*, ²*Tyson Foods, Inc.*

1:30 PM M132

Prevalence of antimicrobial resistant *Escherichia coli* in broiler litter decreases with consecutive reuse of litter

Reed Woyda¹, Adelumola Oladeinde^{*2}, Dinku Endale³, Timothy Strickland³, Kimberly Cook⁴, Jodie Lawrence², Denice Cudnik², Zaid Abdo¹ ¹*Colorado State University*, ²*US National Poultry Center*, ³*Southeast Watershed Research, USDA-ARS*, ⁴*Nutrition, Food Safety/Quality, USDA-ARS-ONP*

1:45 PM M133

Efficacy of novel phytogetic feed additive for prevention of wooden myopathy in broilers and for improving meat quality attributes

A Devangare¹, Shivi Maini^{*2}, Mohd Raziuddin¹, R Kulkarni¹ ¹*Department of Veterinary Livestock Products Technology, College of Veterinary and Animal Sciences, MAFSU*, ²*General Manager, Technical, Indian Herbs Specialities*

2:00 PM M134

Effects of Transportation on Broiler Blood Physiology

Matthew Livingston^{*1}, Chelsea Phillips², Aaron Cowieson³ ¹*DSM Animal Nutrition - Precision Services*, ²*DSM Animal Nutrition - Bioscience and Process Innovation*, ³*DSM Animal Nutrition - Nutritional Health Innovation*

Environment/Management IV Environmental Impacts

Moderator: Dr. Kelley Wamsley, MSSTATE

Room Number: B315

Monday, January 23, 2023

2:15 PM M135

Repellency of Eastern Redcedar (*Juniperus virginiana*) to darkling beetles

Catherine Fudge^{*GS}, Chongxiao Chen *University of Georgia*

2:30 PM M136

Effect of thermal variation during late-stage incubation on broiler chicken growth performance, carcass characteristics, and meat quality defects

Jorge Banegas^{*1GS}, Brittany Wall¹, Martha Rueda², Jeremiah Davis², Joseph Purswell³, Charles Starkey¹, Jessica Starkey¹ ¹*Department of Poultry Science, Auburn University*, ²*National Poultry Technology Center, Auburn University*, ³*USDA ARS Poultry Research Unit*

2:45 PM M137

Effect of novel litter amendments on d 0-59 litter quality and broiler performance

Jorge Urrutia^{*1GS}, Dalton Dennehy¹, Hudson Thames¹, Kelley Wamsley¹, Jessica Wells¹, Anuraj Sukumaran¹, Tom Tabler², John Linhoss³ ¹*Department of Poultry Science, Mississippi State University*, ²*Department of Animal Science, The University of Tennessee*, ³*Biosystem Engineering, Auburn University*,

3:00 PM M138

Effects of yeast cell wall on performance, immune response, and cecal colonization of *Campylobacter jejuni* inoculated broilers

Luis Munoz^{*1GS}, Marquisha Paul², James Krehling¹, Matthew Bailey¹, William King², Cesar Escobar¹, Leticia Orellana¹, Yagya Adhikari¹, Ken Macklin¹ ¹*Auburn University*, ²*Alltech, Inc.*

3:15 PM M139

Application of Carvacrol nanoemulsion as a natural sanitizer for controlling *Salmonella* Enteritidis biofilm in poultry farm environment.

TRUSHENKUMAR SHAH^{*GS}, Chen Zhu, Chetna Shah, Abhinav Upadhyay *University of Connecticut*

3:30 PM M140

Stimulation of red and green light with different intensities during incubation influence hatching traits and post-hatch performance

Shaheryar Ali^{*}, Sohail Ahmad, Muhammad Usman, Waleed Khalid *University of Veterinary and Animal Sciences, Lahore, Pakistan*

3:45 PM M141

Prenatal dichromatic light exposure to japanese quail eggs influence hatching traits and post-hatch performance

Muhammad Safwan^{*}, Sohail Ahmad, Muhammad Usman, Shaheryar Ali, Waleed Khalid *University of Veterinary and Animal Sciences, Lahore, Pakistan*

4:00-6:00 Poster Reception

Metabolism & Nutrition VII General Nutrition

Moderator: Dr. Klint McCafferty, USDA ARS

Room Number: B311

Tuesday, January 24, 2023

8:00 AM T142

Variability in energy value, nutrient and trypsin inhibitor content of extruded full-fat soybeans due to genetics and agronomic conditions

Nicolas Mejia-Abaunza^{*1}, Paula Lozano-Cruz¹, Joaquín Cabanas-Ojeda¹, Valmiro Lima Aragão Neto¹, Michael Joseph¹, Danny Patino¹, Rachel Vann², Edgar Oviedo-Rondon¹ ¹*Prestage Department of Poultry Science, North Carolina State University*, ²*Department of Crop and Soil Sciences, North Carolina State University*

8:15 AM T143

Effect of combined doses of fumonisin, deoxynivalenol and zearalenone on production performance and amino acid digestibility in broiler chickens

Revathi Shanmugasundaram^{*1}, Mary Davis¹, Walid Hakeem², Shahna Fathima², Bikas Shah², Anthony Pokoo-Aikins¹, Oluyinka Olukosi², Todd Applegate², Anthony Glenn¹ ¹*Toxicology and Mycotoxin Research Unit, US National Poultry Research Center, Agricultural Research Service*, ²*Department of Poultry Science, University of Georgia*

8:30 AM T144

Body composition and fasting heat production of modern broilers and their relationship with dietary productive energy (Arkansas Net Energy)

Diego Martinez^{*}, Nawin Suesuttajit, Katie Hilton, Jordan Weil, Cole Umberson, Abdullah Scott, Craig Coon *Department of Poultry Science, University of Arkansas*

8:45 AM T145

Energy and nutrient composition of corn particle fractions generated by three hammer mill settings

Paula Lozano-Cruz, Nicolas Mejia-Abaunza, Joaquín Cabanas-Ojeda, Edgar Oviedo-Rondon^{*} *Prestage Department of Poultry Science, North Carolina State University*

9:00 AM T146

Effects of feeding varying proportions of pellets and fines on growth performance and carcass yield of broilers during a 63-day production period

Klint McCafferty^{*}, Joseph Purswell *USDA-ARS Poultry Research Unit*

9:15 AM Break

Metabolism & Nutrition VII General Nutrition

Moderator: Dr. Klint McCafferty, USDA ARS

Room Number: B311

Tuesday, January 24, 2023

9:30 AM T147

The detection and co-occurrence of mycotoxins in feed corn using HPLC/MS analysis

Anthony Pokoo-Aikins*, Callie McDonough, Jaci Hawkins, Trevor Mitchell, Revathi Shanmugasundaram, Scott Gold, Anthony Glenn *United States National Poultry Research Center, Toxicology and Mycotoxin Research Unit, USDA-ARS*

9:45 AM T148

Dose dependent responses of young broilers to soy β -conglycinin in mash and pelleted diets

Kyle Teague^{*1}, Guillermo Tellez-Isaias¹, Alfred Blanch², Simone Rasmussen², Samuel Rochell³
¹*University of Arkansas System Division of Agriculture*, ²*Hamlet Protein*, ³*Auburn University*

10:00 AM T149

Effect of emulsifier supplementation on growth, performance nutrient digestibility, fecal microbial, fecal gas emission, and blood profiles in growing pigs.

In Ho Kim¹, Srijit Tripathi^{*2}, Dilraj Bhatia² ¹*DANKOOK UNIVERSITY*, ²*VETLINE, A DIVISION OF SIMFA LABS PVT. LTD.*

10:15 AM T150

Productive energy (Ark NE), apparent metabolizable energy (AMEn) and net energy (NE) values for diets and ingredients for 5- 56 d broiler grow-out studies

Nawin Suesuttajit*, Jordan Weil, Cole Umberson, Diego Martinez, Abdullah Scott, Crag Coon *Center of Excellence for Poultry Science, University of Arkansas*

10:30 AM T151

Dietary hemp seed cake enhances performance and egg quality parameters in white caged laying Hens.

Fausto Solis^{*1}, Rajasekhar Kasula¹, Byron Shaffer², Frank Connett², Chris Barrett², Rodney Cocker², Eric Willingham³ ¹*Wenger Animal Nutrient & Technology Innovation Center, The Wenger Group*, ²*Kreider Farms, 1461 Lancaster Rd, Manheim, PA 17545*, ³*Winfield Veterinary Consulting, Inc.*,

Dendy Keynote Lecture

Moderator: Dr. Danielle Graham, UARK

Room Number: B313

Tuesday, January 24, 2023

11:00 AM

Update on the highly pathogenic avian influenza outbreak in the United States

Mary Pantin-Jackwood* *Southeast Poultry Research Laboratory, U.S. National Poultry Research Center, U.S. Dept. of Agriculture, Agricultural Research Service*

12:00 PM SCAD Business Meeting

Room Number: B312

12:00 PM SPSS Business Meeting

Room Number: B314

SCAD II

Moderator: Dr. Rocio Crespo, NCSU

Room Number: B312

Tuesday, January 24, 2023

7:30 AM T152

Characterization of fowl typhoid outbreaks occurring in Latin America

Martha Pulido-Landinez*^{GS}, *Mississippi State University*

7:45 AM T153

Behavior of naturally occurring recombinant infectious bronchitis viruses

Camila Cuadrado*^{GS}, Cassandra Breedlove, Haroldo Toro *Auburn University*

8:00 AM T154

Impact of embryonic exposure to *Enterococcus cecorum* strains isolated from field outbreaks on early performance and septicemia in broiler chickens

Marcela Arango*^{GS}, Latasha Gray, Randy Moore, Abdiel Atencio, Carolina Trujillo, Aaron Forga, Guillermo Tellez-Isaias, Billy Hargis, Juan Latorre, Danielle Graham *Department of Poultry Science, University of Arkansas Division of Agriculture*

8:15 AM T155

Effects of monoglycerides of butyric, caprylic, and capric fatty acids on the performance of pullets vaccinated with a commercial coccidiosis vaccine

Gerald Self, Jr.*^{1GS}, Adebayo Sokale², Michael Ellior³, Daniel Chesser⁴, Kelley Wamsley¹, Pratima Adhikari¹ ¹*Poultry Science, Mississippi State University*, ²*BASF Corporation-Animal Nutrition, North America*, ³*A&E Nutrition Services, LLC*, ⁴*Agricultural and Biological Engineering, Mississippi State University*

8:30 AM T156

Transcriptomic analysis of chicken harderian gland, trachea, cecal tonsil and spleen after vaccination with the LaSota Newcastle Disease Virus

Jannis Nankemann*^{GS}, Andrea Pietruska, Raimundo Espejo, Cassandra Kitchens, Haroldo Toro, Rüdiger Hauck *Auburn University*

8:45 AM T157

Bacteriology findings and microbiological composition analysis of Focal Duodenal Necrosis (FDN)

Yu-Yang Tsai*^{GS}, Sonsiray Narvaez, Nicolle Barbieri, Catherine Logue *Poultry Diagnostic and Research Center, Department of Population Health, The University of Georgia*

9:00 AM Break

SCAD III

Moderator: Dr. Andrea Zedek, Zedek Consulting

Room Number: B312

Tuesday, January 24, 2023

9:15 AM T158

Using the Waterfowl Alert Network to Model Waterfowl Density Near Commercial Poultry in the Atlantic Flyway and Beyond

Maurice Pitesky^{*1,2}, Joseph Gendreau^{1,2}, Tristan Bond¹, Shane Feirer^{1,3}, Jadyn Smolinsky^{1,4}, Jeff Buler^{1,5} ¹*AgriNerds Inc*, ²*University of California, Davis*, ³*University of California-Agriculture Natural Resources*, ⁴*Cherokee Nation System Solutions*, ⁵*University of Delaware*

9:30 AM T159

Molecular characterization of *Mycoplasma gallisepticum* on poultry farms in Nigeria

Eniope Oluwayinka^{*1}, Oni Oluwole², Kadiri Amina², Steven Fini¹, Marianne Dos Santos¹, Jin Qian¹, Naola Ferguson-Noel¹ ¹*Poultry Diagnostic and Research Center, University of Georgia*, ²*College of Veterinary Medicine, Federal University of Agriculture Abeokuta*

9:45 AM T160

Chicken lymphoid cellular immune responses against necrotic enteritis producing *Clostridium perfringens* strains

Ravi Kulkarni^{*1}, Carissa Gaghan¹, Khaled Abdelaziz² ¹*North Carolina State University*, ²*Clemson University*

10:00 AM T161

Effects of quorum sensing inhibition product on broilers in necrotic enteritis challenge.

Charles Hofacre^{*1}, Alain Labbe², Matthew Jones¹, Thomas Coulson², Ana Jaramillo² ¹*Southern Poultry Research Group, Inc*, ²*MicroSintesis Inc*

10:15 AM T162

Applications of online data for understanding backyard poultry distributions.

Joseph Gendreau^{*}, Maurice Pitesky *University of California, Davis School of Veterinary Medicine*

10:30 AM T163

Protection studies of recombinant HVT-IBD and/or live IBD vaccine against 14-day or 25-day AL2 challenge in commercial broilers

Kalen Cookson^{*}, Manuel Da Costa, John Dickson, Jon Schaeffer *Zoetis*

10:45 AM T164

Evaluation of NutriQuest® NUQuest AC-e™ with a coccidiosis vaccine during an *Eimeria* challenge in broilers

Charles Hofacre^{*1}, Matthew Jones¹, Gregory Mathis², Ran Song³, Kim Friesen³, Chet Wiernusz³, Lorraine Fuller⁴, Myrna Olvera⁵, Julio Baltazar⁵, Gonzalo Villar⁵ ¹*Southern Poultry Research Group, Inc.*, ²*Southern Poultry Research, Inc.*, ³*Nutriquest*, ⁴*The University of Georgia*, ⁵*NUTECH*

Dendy Keynote Lecture

Moderator: Dr. Danielle Graham, UARK

Room Number: B313

Tuesday, January 24, 2023

11:00 AM

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12:00 PM SCAD Business Meeting

Room Number: B312

12:00 PM SPSS Business Meeting

Room Number: B314

Metabolism and Nutrition VIII Feed Additives

Moderator: Dr. Cristiano Bortoluzzi, DSM

Room Number: B313

Tuesday, January 24, 2023

7:45 AM T166

Comparative evaluation of scent leaf meal (*Ocimum grattissimum*) and antibiotic growth promoter on broiler performance and blood components

AKINTUNDE ADEDOYIN* *UNIVERSITY OF IBADAN NIGERIA*

8:00 AM T167

Comparative evaluation of various hepato-stimulants on growth, immunity, carcass traits, histology and cost economics in Broiler birds.

Srijit Tripathi¹, Mukund Kadam², A.B. Mandal³, Dilraj Bhatia¹ *¹VETLINE, A DIVISION OF SIMFA LABS PVT. LTD., ²Maharashtra Animal & Fishery Sciences University, ³CENTRAL AVIAN RESEARCH INSTITUTE*

8:15 AM T168

Effect of herbal liver tonic and growth promoter (Livoliv DS) on meat quality attributes of chicken and lean meat production

A Devangre¹, Shivi Maini^{*2}, Mohd Raziuddin¹, G Gadegoankar¹, R Kulkarni¹ *¹Department of livestock products technology, College of Veterinary and Animal Sciences, MAFSU, ²General Manager Technical, Indian Herbs Specialities*

8:30 AM T169

Microbiome Modulation, Microbiome Protein Metabolism Index, and growth performance of broilers supplemented with a precision biotic

Cristiano Bortoluzzi^{*1}, Jose Sorbara¹, Ian Tamburini², Jack Geremia¹ *¹DSM Nutritional Products, ²University of California*

8:45 AM T170

Efficiency trial of 4 different technological toxin binders against mycotoxins multiple contamination in broiler diets.

Jose Fierro*, Patrica Gómez, Juan Medina, Elizabeth Rodríguez *Sanfer Animal Health*

9:00 AM T171

Effect of different probiotics and EnzaPro® on growth performance, and gut health parameters of broiler raised under mild coccidia challenge

Sudhir Yadav*, Yun-mei Lin, Sandra Rodrigues, Rasha Qudsieh *BioResource International, Inc*
Moderator: Dr. Cristiano Bortoluzzi, DSM

9:15 AM Break

Metabolism and Nutrition VIII Feed Additives

Moderator: Dr. Cristiano Bortoluzzi, DSM

Room Number: B313

Tuesday, January 24, 2023

9:30 AM T172

Data for food use authorization for use of recombinant live biotherapeutics to prevent/control necrotic enteritis in poultry

Kathryn Kruziki, Yiannis Kaznessis* *General Probiotics Inc.*

9:45 AM T173

Effect of inactivated *Pichia guilliermondii* postbiotic on performance parameters in broilers: systematic review and multiple trial analysis

Clementine Oguey^{*1}, Mohamad Mortada² ¹*ADM International*, ²*ADM Animal Nutrition*

10:00 AM T174

Effect of supplementing a proprietary yeast-based product on the efficacy of a live salmonella vaccine in broilers

Sharon Miller^{*1}, Charles Hofacre², Muhammed Shameer Abdul Rasheed¹, Chris Rude¹, Mark LaVorgna¹, Mahmoud Masadeh¹, Kristy Dorton¹ ¹*Devenish Nutrition*, ²*Southern Poultry Research Group*

10:15 AM T175

Effect of a proprietary oregano product on weight gain, feed conversion, and intestinal lesions of Cobb 500 broilers during a mixed *Eimeria* challenge infection

Muhammed Shameer Abdul Rasheed^{*1}, Greg Mathis², Brett Lumpkins², Kristjan Bregendahl¹, Mark LaVorgna¹, Mahmoud Masadeh¹, Kristy Dorton¹ ¹*Devenish Nutrition*, ²*Southern Poultry Feed and Research*

10:30 AM T176

Determining the effect of a proprietary all-natural feed additive on the performance of Ross 708 broilers to 35 days of age under a coccidiosis challenge

Michael Blair^{*}, Mark LaVorgna, Mahmoud Masadeh, Muhammed Shameer Abdul Rasheed, Kristy Dorton *Devenish Nutrition*

10:45 AM T177

Effects of a commercial triple-strain *Bacillus*-based probiotic on broiler performance and welfare

Eric Sobotik^{*1}, Steve Lerner¹, Rogerio Frozza¹, Alberto Inoue¹, Antoine Meuter^{1,2}, Ibiara Almeida Paz³ ¹*Animal and Plant Health & Nutrition, Chr. Hansen, Inc.*, ²*Animal and Plant Health & Nutrition, A/S*, ³*Department of Animal Production and Preventative Veterinary Medicine, São Paulo State University*

Dendy Keynote Lecture

Moderator: Dr. Danielle Graham, UARK

Room Number: B313

Tuesday, January 24, 2023

11:00 AM

Update on the highly pathogenic avian influenza outbreak in the United States

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Room Number: B312

Tuesday, January 24, 2023

12:00 PM SCAD Business Meeting

Room Number: B312

12:00 PM SPSS Business Meeting

Room Number: B314

Metabolism and Nutrition IX Feed Additives

Moderator: Dr. Christi Swaggerty, USDA

Room Number: B314

Tuesday, January 24, 2023

7:45 AM T178

Efficacy evaluation of supplementing novel phytogetic feed additive for prevention of wooden myopathy in fast growing broiler birds

Shivi Maini^{*1}, Sanjay Suradker², Deepak Singhare² ¹*General Manager- Technical, Indian Herbs Specialities Pvt. Ltd.*, ^{2*}*Scientist, Institute of Poultry Management and Technology (IPMT), Ululikachan,*

8:00 AM T179

Broiler gut barrier function enhancement by a synergistic in-feed technology under dietary-induced chronic inflammation in real farming conditions

Alireza Khadem^{*1,2}, Eirini Griela³, Milena Sevastiyanova², Konstantinos C. Mountzouris³, DON Ritter², Christos Gougoulas² ¹*Ghent University*, ²*Innovad SA*, ³*Department of Animal Science, Agricultural University of Athens*

8:15 AM T180

Effect of activated diatoms on the regulation of intestinal passage rate, digestibility, and performance in broiler chicken

Felipe Mendy^{*1}, David Diez², Anna Tesouro², Maria Soriano², Connie Gallardo³ ¹*IFTA USA Inc*, ²*Biovet S.A.*, ³*Universidad Científica del Sur*

8:30 AM T181

IMW50® improves immune modulation response in aflatoxin challenge broilers

Melina Bonato^{*1}, Max Ingbergman², Breno Beirão², Fernando Souza¹ ¹*ICC Industrial Comércio Exportação e Importação SA*, ²*Imunova Análises Biológicas Ltda ME*

8:45 AM T182

Effects of a phytogetic blend on broiler growth performance with used litter challenge

Meghan Schwartz^{*}, Stacie Crowder *PMI*

9:00 AM T183

Macroalgae extracts limits Marek's disease virus replication and cell-to-cell spread in vitro.

Maria RODRIGUEZ^{*1}, Frédéric Bussy¹, Pi Nyvall-Collen¹, Laëticia Trapp-Fragnet² ¹*Olmix S.A.*, ²*INRAE*

9:15 AM Break

Metabolism and Nutrition IX Feed Additives

Moderator: Dr. Christi Swaggerty, USDA

Room Number: B314

Tuesday, January 24, 2023

9:30 AM T184

Feeding a protected complex of biofactors and antioxidants to breeder hens provides transgenerational protection against *Salmonella enterica* serovar Enteritidis to progeny chicks Christi Swaggerty^{*1}, Ramon Malheiros², Casey Johnson¹, Ludovic Lahaye³, Hector Salgado³, J Byrd¹, Kenneth Genovese¹, Haiqi He¹, Elizabeth Santin³, Michael Kogut¹ ¹*U.S. Department of Agriculture, Agricultural Research Service*, ²*North Carolina State University*, ³*Jefo Nutrition, Inc.*

9:45 AM T185

Effect of dietary supplementation of Solergy as a replacement of soybean oil on productive performance, egg quality traits and liver function parameters in laying hens from 32 to 47 weeks of age.

Juan Miguel Ruiz Rodríguez*, Octavi Colom, Ignacio Josa Prado, Carlos Domènech Igusol
Advance S.A.

10:00 AM T186

EVALUATION OF CELLUTEIN® ON TURKEY GROWTH PERFORMANCE AND FEED EFFICIENCY

Mathew Vaughn^{*1}, Michael Barnas², James McNaughton², John Gonzalez³ ¹*Puretein Bioscience*, ²*AHPPharma*, ³*University of Georgia*

10:15 AM T187

Evaluation of the effect of Balancius on growth performance of commercial turkeys Shelby Corray^{*1}, April Levy¹, Jeffre Firman², Randy Mitchell³ ¹*DSM Nutritional Products*, ²*Missouri Contract Poultry Research*, ³*Perdue Research Farm*

10:30 AM T189

Growth performance response in tom turkeys fed conventional diet supplemented with monoglycerides of short and medium chain fatty acids

A. O. Sokale^{*1}, A. Barri², J. Firman³, N. Tillman⁴ ¹*BASF Corporation*, ²*BASF SE*, ³*Missouri Contract Poultry Research*, ⁴*Nutritional Statistics LLC*

10:45 AM T190

Blood indices, oxidative status, microbial load and tissues histomorphology of growing Japanese quail fed diets supplemented with cinnamon and ginger oils as antibiotic alternatives Abdulmohsen Alqhtani^{*1}, Mohamed Abd El-Hack², Adel Attia², Zenat Ibrahim², Mohamed El-Saadony², Mohamed Abo El Maati², Naif Al-Gabri³, Ayman Swelum¹ ¹*King Saud University*, ²*Zagazig University*, ³*Thamar University*

Dendy Keynote Lecture

Moderator: Dr. Danielle Graham, UARK

Room Number: B313

Tuesday, January 24, 2023

11:00 AM

Update on the highly pathogenic avian influenza outbreak in the United States Mary Pantin-Jackwood* *Southeast Poultry Research Laboratory, U.S. National Poultry Research Center, U.S. Dept. of Agriculture, Agricultural Research Service*

12:00 PM SCAD Business Meeting

Room Number: B312

12:00 PM SPSS Business Meeting

Room Number: B314

Metabolism and Nutrition X Enzymes

Moderator: Dr. Yemi Burden, United Animal Health

Room Number: B315

Tuesday, January 24, 2023

7:45 AM T191

Evaluating the benefits of a novel multi-component protease supplementation on broiler chicken in a commercial organic production system

Anhao Wang¹, Aizwarya Thanabalan², Rob Patterson^{*1}, Paul Garvey¹, Mike Edwards³, Elijah Kiarie² ¹*CBS Bio-Platforms*, ²*University of Guelph, Animal Biosciences*, ³*Jones Feed Mill*

8:00 AM T192

Use of a novel mannanase isolated or in combination on broilers performance

Rodrigo Messias^{*1}, Rita Vieira², Anna Fickler³, Bruno Wernick¹, Michele Lima⁴, Edney Silva² ¹*BASF SA*, ²*UNESP*, ³*BASF SE*, ⁴*Universidade Brasil*

8:15 AM T193

Measuring the in vitro anti-clostridial activity of a phage endolysin expressed in *Saccharomyces cerevisiae*.

Gregory Siragusa^{*1}, Mike Barnas², Wendy Attuquayefio², Jennifer Timmons³, Chris Skory⁴, Rose Hammond⁴, David Donovan⁵, James McNaughton² ¹*Scout Microbiology*, ²*AHPPharma, Inc.*, ³*University of Maryland Eastern Shore*, ⁴*USDA Agricultural Research Service*, ⁵*Morgan State University*

8:30 AM T194

Effect of supplementing a multi-carbohydrase enzyme in conjunction with phytase to broiler chickens on growth performance and carcass traits

Hector Leyva-Jimenez, Yemi Burden^{*}, Carlos Soto, Katherine McCormick, Adrienne Woodward *United Animal Health Inc.*

8:45 AM T195

Application of full matrix for a novel consensus bacterial 6-phytase variant alone and in combination with a xylanase-amylase-protease mixture in broilers improved economic benefit and sustainability

A. Bello^{*1,2}, R. D. Gimenez-Rico², S. Gilani², B. C. Hillen², K. M. Venter³, P. Plumstead³, Y. Dersjant-Li² ¹*Danisco Animal Nutrition & Health, IFF - USA*, ²*Danisco Animal Nutrition & Health, IFF - Netherlands*, ³*Neuro Livestock Research, South Africa*

9:00 AM T196

Effect of new generation bacterial 6-phytase on recovery in feed and performance, bone mineralization and calcium and phosphorus apparent ileal digestibility in 21-day-old broilers.

Mohamad Mortada^{*}, Amanda Hesse, Cole Schralla, Grant Scheuermann, Nathan Martin, Laura Griffith, Ayoub Mousstaaid *ADM Animal Nutrition*

9:15 AM Break

Metabolism and Nutrition XI Vitamins and Minerals

Moderator: Dr. Juxing Chen, Novus International

Room Number: B315

Tuesday, January 24, 2023

9:30 AM T197

Maternal supplementation of different levels bis-chelated trace minerals on reproductive performance of broiler breeder and growth performance of progeny subjected to coccidia challenge

Song Bin¹, Shiping Bai¹, Keying Zhang¹, Xuemei Ding¹, Jianping Wang¹, Qiufeng Zeng¹, Quan Tan², Yuyun Mu², Juxing Chen^{*2} ¹*Animal Nutrition Institute, Sichuan Agricultural University*, ²*Novus International Inc*

9:45 AM T198

Maternal supplementation of trace mineral minerals on breeder production and progeny growth and health

Juxing Chen^{*1}, Raquel Araujo², Fabricia Roque², Guilherme Silva², Cristiane Araujo², Brunna Leite², Lúcio Araujo², David Torres¹, Mercedes Vazquez-Anon¹ ¹*Novus International Inc.*, ²*Universidade de São Paulo*

10:00 AM T199

Comparative efficacy evaluation of natural choline (BioCholine) and synthetic choline chloride on broiler growth, performance and meat quality attributes

A Devangare¹, Shivi Maini^{*2}, Mohd Raziuddin¹, G Gadegaonkar¹, R Kulkarni¹ ¹*Department of livestock products technology, College of veterinary and animal sciences, MAFSU*, ²*General Manager technical, Indian Herbs Specialities*

10:15 AM T200

Effect of calcium pidolate dietary supplementation in a context of phosphate withdrawal in broiler feed

Clémence Marecaille¹, Julián Melo^{*2}, Samuel Roulleau³, Xavier Roulleau¹ ¹*Dietaxion SAS*, ²*Universidad Nacional de Luján*, ³*MG2MIX*

10:30 AM T201

Effect of plant-based 1,25(OH)2D3-glycosides cross-supplementation to breeders and broiler offspring on zootechnical performance, bone ash and intestinal integrity

Ricardo Nunes¹, Jonivan Paloschi², Javier Gonzalez^{*2}, Marine Dewez², Valentin Bartholomey², Jan Dirk Van der Klis³, Kathrin Buehler³, Katia Pedrosa³, Thiago dos Santos Andrade¹, Nilton Rohloff Junior¹, Edevaldo Iachinski¹ ¹*Universidade Estadual do Oeste do Paraná*, ²*Nuproxia Switzerland*, ³*Herbonis*

10:45 AM T202

In vivo amino acid digestibility is inversely correlated to the trypsin and chymotrypsin inhibitor contents of commercial solvent extracted soybean meal

Nelson Ruiz^{*1}, Carl Parsons², Benjamin Parsons³, Keshun Liu⁴ ¹*Nelson Ruiz Nutrition, LLC*, ²*Department of Animal Sciences, University of Illinois*, ³*Department of Poultry Science, University of Arkansas*, ⁴*Grain Chemistry and Utilization Laboratory, National Small Grains and Potato Germplasm Research Unit, USDA*

Dendy Keynote Lecture

Moderator: Dr. Danielle Graham, UARK

Room Number: B313

Tuesday, January 24, 2023

11:00 AM

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12:00 PM SCAD Business Meeting

Room Number: B312

12:00 PM SPSS Business Meeting

Room Number: B314

POSTER SESSIONS

Moderators: Dr. John Linhoss, Auburn and Dr. Ryan Dilger, Illinois

Monday January 23, 2023

Room Number: B313 Foyer

Physiology, Endocrinology and Reproduction: Broilers, Turkeys

P203

Effects of antibiotic growth promoters on growth and metabolism in broilers of high or low feed efficiency

Charles Meeks^{*GS}, Laura Ellestad *University of Georgia*

P204

Understanding the impact of selection for water conversion ratio in broilers

John Helt^{*1,2UG}, Travis Tabler², Sara Orłowski², Kirsten Shafer², Maricela Maqueda² *¹Department of Animal Science, University of Tennessee, ²Department of Poultry Science, Division of Agriculture, University of Arkansas*

P205

The impact of pre-lay inseminations on the sperm storage tubule transcriptome in turkey hens

Kristen Brady^{*}, Julie Long *Animal Biosciences and Biotechnology Laboratory, BARC, ARS, USDA*

Physiology, Endocrinology and Reproduction: Layers, Breeders

P206

Effects of sampling methodologies on *Mycoplasma gallisepticum* tissue populations in commercial egg-laying pullets

Sethulakshmi Sasidharan^{*1GS}, Jeffrey Evans², Katie Elliott², Quentin Read³, E. David Peebles¹

¹*Department of Poultry Science, Mississippi State University*, ²*USDA-ARS, Poultry Research Unit*,

³*USDA-ARS, Southeast Area, North Carolina State University*

P207

Effect of preincubation heating, turning and physiological zero on hatchability rate and post hatch growth performance of broiler from a 37-week old flock

Jordan Smith^{*UG}, Oscar Tejada *Southern Arkansas University*

P208

Changes of nutritional absorption-related genes and intestinal histology in laying Japanese quail (*Coturnix japonica*) at different ages

Hamid reza Rafieian-Naeini^{*1GS}, Mahdi Zhandi², Maryam Taghipoor-Shahbandi², Amir Reza Sabzian³, Ali Reza Yousefi⁴, Woo Kim¹

¹*Department of Poultry Science, University of Georgia*,

²*Department of Animal Science, College of Agriculture and Natural Resources, University of*

Tehran, Alborz, Karaj, Iran, ³*Department of Biotechnology, College of Agriculture and Natural*

Resources, University of Tehran, ⁴*Department of Pathology and Experimental Animals,*

Razi Vaccine and Serum Research Institute, Agricultural Research Education and Extension

Organization (AREEO)

P209

Effects of herd and sex on telomere length among three chicken herds

Sang-Hyon OH^{*}, Sea-Hwan Sohn *Gyeongsang National University*

P210

Effects of four *Gallus gallus domesticus* strains on body weight gain and vital internal organs allometry

Lizia Carvalho^{*1}, Dimitri Malheiros², Emmillie Boot², Benjamin Alig², Kari Karding², Kenneth

Anderson², Ramon Malheiros²

¹*UNESP*, ²*Prestage Department of Poultry Science - NCSU*

Processing and Products

P211

- Rapid Detection of Septicemia-Toxemia in Eviscerated Carcasses Using a Handheld Fluorescence Imaging System

Micah Black^{*1GS}, Bet Wu Alvarado¹, Luis Guzman¹, Aftab Siddique¹, Laura Garner¹, Amit Morey¹, Jianwei Qin², Diane Chan², Insuck Baek², Moon Kim², Nicholas MacKinnon³, Stanislov Sokolov³, Alireza Akhbardeh³, Fartash Vasefi³ ¹Auburn University, ²USDA-ARS, ³SafetySpect Inc.

P212

Phenotypic variations of woody and normal condition in broiler breast meat

Sang-Hyon OH^{*1}, Euyeon Noh², Byungrok Min² ¹Gyeongsang National University, ²University of Maryland Eastern Shore

P213

Buffered peptone water formulation does not influence growth of pESI-positive Salmonella serovar Infantis

Elizabeth McMillan^{*1}, Mark Berrang¹, Quentin Read², Surendra Rasamsetti³, Amber Richards³, Nikki Shariat³, Jonathan Frye¹ ¹United States Department of Agriculture, Agricultural Research Service, U.S. National Poultry Research Service, Poultry Microbiological Safety and Processing Research Unit, ²United States Department of Agriculture, Agricultural Research Service, Southeast Area, ³Department of Population Health, University of Georgia

P214

Chicken packed in chicken: Developing a fully biodegradable packaging film for poultry meat.

Katherine Sierra^{*GS}, Amit Morey Auburn University

P215

Rapid assessment of flavor profiles of raw and cooked chicken meat by electronic tongue and electronic nose

Linda Barahona^{*1,2UG}, Michelle Hayden¹, Md. Moazzem¹, Sungeun Cho¹ ¹Auburn University, ²Zamorano University

P216

Identifying Signature Micro-Wave Frequencies for the Non-invasive, Rapid Detection of Woody Breast Myopathy in Live and Processed Broilers Using Machine Learning Algorithms

Aftab Siddique^{*1GS}, Laura Garner¹, Wilmer Pacheco¹, Ryan Freeman², Amit Morey¹ ¹Auburn University, ²Compass Technology Group, LLC

P217

Changes in the quality of eggs during storage depending on the laying hen rearing system at 30 weeks of age

Serkan BÜYÜKÜNAL¹, Karlo MURATOĞLU¹, Ali ÇALIK², Abdurrahman KIZIL³, Mustafa ALATAŞ⁴, Oğuzhan KAHRAMAN⁴, Ahmet PEKEL^{*3} ¹Department of Food Hygiene and Technology, Faculty of Veterinary Medicine, Istanbul University-Cerrahpaşa, 34320, ²Department of Animal Nutrition and Nutritional Diseases, Faculty of Veterinary Medicine, Ankara University, 06110, ³Department of Animal Nutrition and Nutritional Diseases, Faculty of Veterinary Medicine, Istanbul University-Cerrahpaşa, 34320, ⁴Department of Animal Nutrition and Nutritional Diseases, Faculty of Veterinary Medicine, Selçuk University, 42003

P218

Interactions between high pressure processing and natural antimicrobials in ground white-meat chicken: An analysis of microbial and physicochemical changes

Amalia Diaz, Belinda Cochran, Julie Northcutt, Paul Dawson, George Cavender* Clemson University

P219

Efficacy of atmospheric-pressure plasma jet to eliminate Salmonella Typhimurium, Heidelberg and Enteritidis inoculated on chicken skin

Bet Wu^{*1GS}, Amit Morey¹, Aftab Siddique¹, Charles Herron¹, Garret Royster¹, Katherine Sierra¹, Laura Garner¹, Luis Guzman¹, Micah Black¹, Ryan Sheinberg¹, Saikat Chakraborty Thakur² ¹Poultry Science Department, Auburn University, ²Physics Department, Auburn University

P220

Impacts of acidified peracetic acid on the survival of Salmonella and Campylobacter on poultry thighs

Jessica Brown^{*1GS}, Dana Dittoe¹, C.B. Austin¹, Kara Mikkelsen², Billy Hughes², Steven Ricke¹

¹*University of Wisconsin-Madison*, ²*Hydrite*

Pathology

P221

Respiratory Cryptosporidiosis in commercial broiler chickens in northern Georgia.

Silvia Carnaccini*, Maurice Raccoursier Frost, Jenny Nicholds, John French, Karen Grogan
University of Georgia

P222

Botanical solution in feed additive for intestinal release to control blackhead disease (Histomoniasis) in turkeys

Sebastian Decap*¹, Hans Konsens¹, Victoria Tapia¹, Rosa Navarro¹, Miguel Guzman² ¹*Plantae Labs SpA*, ²*Avian Pathology Lab, Universidad de Chile*

P223

Analysis of serum biochemistry profile in turkeys challenged with *Histomonas meleagridis*

Vijay Durairaj*, Ryan Vander Veen *Huvepharma, Inc.*,

P224

Assessment of mRNA abundance of key cytokines during histomoniasis in turkey poults in a lateral transmission model

Abhisek Niraula*^{GS}, Candice Blue, Davis Fenster, Nima Emami, Rami Dalloul *University of Georgia*

P225

In-vitro and In-vivo evaluations of plant bio-actives to directly inhibit the growth of *Histomonas Meleagridis*

Bertrand Medina*¹, Ivan GIRARD¹, Chongxiao (Sean) CHEN^{2,3} ¹*Probiotech International Inc.*, ²*Dept. of Poultry Science, University of Georgia*, ³*North Carolina State University*

P226

Productive monitoring of a complete cycle of broilers subjected to an infection process with field strains of *Eimeria* spp. under experimental farm conditions

Jenny Chaparro Gutiérrez*¹, Carolina Mesa Pineda², Oscar Múnera Bedoya², Jorge Duque Noreña², Sara López Osorio¹ ¹*Grupo de Investigación CIBAV, Facultad de Ciencias Agrarias, Universidad de Antioquia*, ²*Grupo de Investigación Nutri-Solla, Solla S.A*

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Eimeria infection with different doses in broilers raised in floor pens for 35 days

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Establishment of chicken apical-out three-dimensional enteroids

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Understanding the adhesion and invasion characteristics of avian *E. coli* isolated from clinical and non-clinical samples using avian macrophages cell line HD11

Priyanka Devkota*^{1GS}, Linan Jia¹, Xue Zhang², Anuraj Sukumaran¹, Aaron Kiess³, Jeffrey Evans⁴, Reshma Ramachandran¹, Pratima Adhikari¹, Li Zhang¹ ¹*Department of Poultry Science, Mississippi State University*, ²*Department of Food Science, Nutrition and Health Promotion, Mississippi State University*, ³*Prestage Department of Poultry Science, North Carolina State University*, ⁴*USDA, Agriculture Research Service, Poultry Research Unit*

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P.F. Cotter* *Cotter Laboratory*

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Priscilla Koerich*¹, Doris Doblies² ¹*Elanco*, ²*Elanco Austria GmbH*

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Understanding the adhesion and invasion characteristics of avian *E. coli* isolated from clinical and non-clinical samples using avian macrophages cell line HD11

Priyanka Devkota^{*1GS}, Linan Jia¹, Xue Zhang², Anuraj Sukumaran¹, Aaron Kiess³, Jeffrey Evans⁴, Reshma Ramachandran¹, Pratima Adhikari¹, Li Zhang¹ ¹*Department of Poultry Science, Mississippi State University*, ²*Department of Food Science, Nutrition and Health Promotion, Mississippi State University*, ³*Prestage Department of Poultry Science, North Carolina State University*, ⁴*USDA, Agriculture Research Service, Poultry Research Unit*

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Linan Jia^{*1}, Mark Arick II², Chuan-Yu Hsu², Daniel Peterson², Jeffrey Evans³, Anuraj Sukumaran¹, Reshma Ramachandran¹, Pratima Adhikari¹, Li Zhang¹ ¹*Department of Poultry Science, Mississippi State University*, ²*Institute for Genomics, Biocomputing, and Biotechnology, Mississippi State University*, ³*USDA, Agriculture Research Service, Poultry Research Unit*

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Hanseon Ko^{*1}, Emily Kimminau², Doyun Goo¹, Janghan Choi¹, Venkata Sesha Reddy Choppa¹, Jihwan Lee¹, Woo Kyun Kim¹ ¹*University of Georgia*, ²*Purina Animal Nutrition*

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Ali Zanaty¹, Zienab Mosaad¹, Wael Elfeil^{*2}, Mona Badr³, Mohamed Rady¹ ¹*Animal Health Research Institute, Agriculture Research Center*, ²*Avian and Rabbit Medicine Department, Faculty of Veterinary Medicine, Suez Canal University*, ³*Cairo 3A for poultry production*

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Wael Elfeil^{*1}, Hefni Yousef², Magdy Elkady³, Ahmed Sedeik² ¹*Avian and Rabbit Medicine Department, Faculty of Veterinary Medicine, Suez Canal University*, ²*Animal Health Research Institute, Agriculture Research Center*, ³*Department of Poultry Diseases, Faculty of Veterinary Medicine, Beni-Suef University*

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Charles Hofacre*, Laura Corbett², Matthew Jones¹, Wendy Wakeman², Elizabeth Krushinskie³
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Olamide Durodola^{*UG}, Jeremiah Davis¹, John Linhoss¹, Jessica Starkey², Brittany Wall², Katie Elliott³ *¹National Poultry Technology Center at Auburn University, ²Auburn University, Poultry Science Department, ³USDA ARS Poultry Research Unit*

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Mitigation of heat stress in broiler chickens using dietary supplementation of microalgae (*Spirulina platensis*)

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Antoine Meuter^{*1}, Dorthe Sandvang¹, Christophe Bostvironnois¹, Eric Sobotik^{2 1} *Animal and Plant Health & Nutrition, Chr. Hansen, A/S, 2Animal and Plant Health & Nutrition, Chr. Hansen, Inc.*

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Alison Ramser*, Elizabeth Greene, Sami Dridi, Narayan Rath *University of Arkansas, Center of Excellence for Poultry Science*

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Mustafa Jaihuni^{*1}, Yang Zhao¹, Hao Gan², Tom Tabler¹, Hairong Qi³, Maria Prado¹ *¹Department of Animal Science, University of Tennessee Knoxville, ²Department of Biosystems Engineering, University of Tennessee Knoxville, ³Department of Electrical Engineering, University of Tennessee Knoxville*

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Benjamin Alig*, Kari Harding, Alea Belflowers, Ramon Malheiros, Madison Spangle, Kenneth Anderson *Prestage Department of Poultry Science, NC State University*

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Koyle Knappe*^{1GS}, Cassandra Durden², Yuexun Tian³, Macie Garza³, John Carey¹, Sarah Hamer², Gabriel Hamer³ ¹*Department of Poultry Science, Texas A&M University*, ²*Department of Veterinary Integrative Biosciences, Texas A&M University*, ³*Department of Entomology, Texas A&M University*

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Shahna Fathima^{*1GS}, Walid Al Hakeem¹, Bikas Shah¹, Revathi Shanmugasundaram², Ramesh Selvaraj¹ ¹*Department of Poultry Science, University of Georgia*, ²*Toxicology and Mycotoxin Research Unit, US National Poultry Research Center*

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Kaitlyn Sommer^{*1GS}, Juliano de Paula Dorigam², Rose Whelan², Bradley Gorenz¹, Maci Oelschlager¹, Julianna Jespersen¹, Ryan Dilger¹ ¹*University of Illinois - Urbana Champaign*, ²*Evonik Nutrition & Care GmbH*

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Catarina Stefanello^{*1,2}, Sergio Vieira³, Heitor Rios³, Cristina Simoes¹, Guilherme Godoy¹, Jessica Starkey², Charles Starkey² ¹*Federal University of Santa Maria*, ²*Auburn University*, ³*Federal University of Rio Grande do Sul*

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Brooke Jasek^{*1}, Nelson Ward¹, Dan Moore² ¹*DSM Nutritional Products*, ²*Colorado Quality Research*

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Kylie Roesler^{*1UG}, Tao Sun², Xingen Lei² ¹*Dept. of Poultry Science, Division of Agriculture, University of Arkansas*, ²*Department of Animal Science, Cornell University*

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Pravin Mishra^{*GS}, Razib Das, Ajay Chaudhary, Birendra Mishra, Rajesh Jha *Department of Human Nutrition, Food and Animal Sciences, College of Tropical Agriculture and Human Resources, University of Hawaii at Manoa*

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Pravin Mishra^{*GS}, Razib Das, Ajay Chaudhary, Birendra Mishra, Rajesh Jha *Department of Human Nutrition, Food and Animal Sciences, College of Tropical Agriculture and Human Resources, University of Hawaii at Manoa*

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Microbiocenosis of the chicken ceca: impact of in ovo delivered bioactive substances, heat stress, and antibiotic growth promoters

Samson Oladokun^{*GS}, Deborah Adewole *Department of Animal Science and Aquaculture, Dalhousie University*

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Dalton Dennehy^{*1GS}, Alexandre Zocche², Gui Alexandrino², Kelley Wamsley¹ *Department of Poultry Science, Mississippi State University*, ²*Phytobiotics North America LLC*

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The effect of supplementation of organic acid in drinking water on Pekin Duck growth and welfare

Jessica Rocha^{*}, Gregory Archer *Texas A&M University - College Station*

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Luis Avila^{*1}, Kelly Sweeney¹, Cheryl Schaeffer², Nicole Holcombe², Callie Selby², Enrique Montiel², Jeanna Wilson¹ *University of Georgia Department of Poultry Science*, ²*Antitox Corporation*

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Emily Jiral^{*1}, J. Padgett², Gregory Acher¹ ¹*Texas A&M University*, ²*Phileo by Lesaffre*

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June Hyeok Yoon^{*1}, Sung Yong Joo², Ji Young Jung³, Myunghoo Kim², Changsu Kong¹ ¹*Kyungpook National University*, ²*Pusan National University*, ³*Nakdonggang National Institute of Biological Resources (NNIBR)*

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Anticoccidial effects of blueberry and cranberry pomace alone or in combination with a *Lactobacillus* isolate in broiler chickens

Philip Mak^{*1,2}, Attiq Rehman¹, Carl Julien³, Yan Martel-Kennes³, Xianhua Yin¹, Elijah Kiarie², Moussa Diarra¹ ¹*Guelph Research and Development Centre, Agriculture and Agri-Food Canada (AAFC)*, ²*Department of Animal Biosciences, University of Guelph*, ³*Centre de recherche en sciences animales de Deschambault*

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The effect of synbiotic supplementation on the ileal microbiota and short chain fatty acids concentration in broilers.

Walid Al Hakeem^{*1}, Jeferson Lourenco², Emily Cason¹, Daniel Adams¹, Shahna Fathima¹, Bikas Shah¹, Revathi Shanmugasundaram³, Ramesh Selvaraj¹ ¹*Department of Poultry Science, University of Georgia*, ²*Department of Animal and Dairy Science, University of Georgia*, ³*Toxicology and Mycotoxin Research Unit, USDA-ARS*

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Comparative efficacy of cranberry pomace and antibiotic growth promoters on growth performance of broiler chickens fed corn and soybean meal-based diet and challenged with *Eimeria*

Aline Pereira^{*1}, Kely Ross², Moussa Diarra³, Qi Wang³, Elijah Kiarie¹ ¹*University of Guelph*, ²*Summerland Research and Development Centre, Agriculture and Agri-Food Canada*, ³*Guelph Research and Development Centre, Agriculture and Agri-Food Canada*

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Effects of dietary supplementation with AlphaD3TM on laying hen performance parameters through an extended production cycle.

Alejandra Garcia^{*1}, Micaela Sinclair-Black¹, Roselina Angel², Bibiana Jaramillo³, Xabier Arbe⁴, David Caverio⁴, Laura Ellestad¹ ¹*Department of Poultry Science, University of Georgia*, ²*Animal and Avian Sciences, University of Maryland*, ³*Illuma Alliance*, ⁴*H&N International*

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Natural choline supplementation reduces steatosis in broilers

Matheus Ramalho Lima^{*1}, Isabelle Kaneko², Adiel de Lima², Lucas de Melo², Mário de Lima², Anna Neusa Brito², Fernando Perazzo Costa², Andreia Villas Boas³, Ana Toledo³, Sigfrido Ferrer^{3,4}, Saravana Kumar⁵, Ajay Kumar⁵, Archibald Netto⁵ ¹*Universidade Federal Rural do Semi-Árido*, ²*Universidade Federal da Paraíba*, ³*Indukern do Brasil Química Ltda*, ⁴*Indukern Espanha*, ⁵*Natural Remedies Private Limited*

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Anhao Wang, Rob Patterson^{*}, Paul Garvey *CBS Bio-Platforms*

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Comparative Effects of Eubiotics and Antibiotic Feed Additives on Performance, Coccidial Lesion Scores and Fecal Clostridial Counts in Challenged and Disease-Free Broilers

Luis Gomez^{*1}, Ken Bafundo¹, Bruce Johnson¹, James McNaughton² ¹*Phibro Animal Health Corporation*, ²*AHPharma, Inc.*

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Effect of protected sodium butyrate to protect broilers from *Salmonella* heidelberg

Carlos del Cuvillo^{*1}, Mónica Puyalto¹, Hebert Silveira², Giselle da Silva Gallio³, Juan José Mallo¹ ¹*Norel SA*, ²*Natural BR Feed*, ³*Nutrinzoo*

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Feeding Varium® produces growth performance similar to feeding an antibiotic on-farm.

Sara Johnston^{*}, Eduardo Baggio, Fernando Blini, Sergio Candeo *Amlan International*

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Effects of citrus flavonoids supplementation in feed on performance and oxidative stress of broiler chickens under heat stress conditions

Nidha Rodsatan¹, Igor Peñarrubia², Mar Serra², Javier Crespo², Alfred Blanch^{*3}, Yuwares Ruanganit¹ ¹*Kasetsart University*, ²*HTBA*, ³*Addimus, Providing Trust, SL*

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Postbiotic as a potential substitute for the use of growth promoters in broilers

Jéssica Cruvinel¹, Márcio Caparroz², Fábio Mello^{*2}, Paulo Raffi², Airtón Prezoto¹, Giovana Longhini¹, Liliane Terasaka¹, Carlos Granghelli¹, Vitor Pais¹, Wender Lima¹, Isabella Silva¹, Jennifer Motta¹, Marcelo Viviani¹, Lucas Buturi¹, Cristiane Araújo³, Lúcio Araújo¹ ¹*School of Animal Husbandry and Food Engineering, University of São Paulo (USP)*, ²*Diamond V*, ³*Department of Animal Nutrition and Production, University of São Paulo (FMVZ-USP)*

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Standardized citrus extract combination with probiotic to improve broiler chicken's performances

Sekhou Cisse^{*1,2}, Abderrahim Mansour³, Mohamed el Amine Benarbia^{1,2} ¹*Nor-Feed SAS*, ²*Labcom FeedInTech*, ³*Sofabel SARL*

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In vitro and in vivo efficacies of a fatty acids esters association against *Clostridium perfringens*

Clarisse Techer, Julie Castier, Nolwenn Bernard, Charlotte Raybaud, Claire Le Dain^{*} *Mixscience*

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Performance and carcass characteristics in broilers fed with postbiotics: alternative to the use of growth promoting antibiotics

Jéssica Cruvinel¹, Márcio Caparroz², Fábio Mello^{*2}, Paulo Raffi², Airtón Prezoto¹, Giovana Longhini¹, Liliane Terasaka¹, Carlos Granghelli¹, Vitor Pais¹, Wender Lima¹, Isabella Silva¹, Jennifer Motta¹, Marcelo Viviani¹, Lucas Buturi¹, Cristiane Araújo³, Lúcio Araújo¹ ¹*School of Animal Husbandry and Food Engineering, University of São Paulo (USP)*, ²*Diamond V*, ³*Department of Animal Nutrition and Production, University of São Paulo (FMVZ-USP)*

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Antioxidant diversification in broiler diet, an effective strategy in heat stress conditions

Paul Engler^{*}, Cedric Vandenbossche, Mohammed BENARBIA *Nor-Feed SAS*

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Multi-strain Q-Biotic® Bacillus and combination multi-strain Bacillus plus yeast cell wall BacPack® improve performance of turkeys under coccidial stress

Miloud Araba^{*1}, Troy Lohrmann¹, Miguel Ruano¹, Brett Lumpkins², Greg Mathis² ¹*Quality Technology International, Inc.*, ²*Southern Poultry Research, Inc.*

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A natural coccidiostat, Phylox Feed, improves performance, intestinal lesion scores, and fecal oocyst shedding of Eimeria-infected broilers

San Ching^{*1}, LeAnn Johnston¹, Brett Lumpkins² ¹*Amlan International*, ²*Southern Poultry Feed & Research, Inc.*

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The effect of a Lactobacillus LB fermentate postbiotic on the performance of commercial male broilers

Erik Eckhardt^{*1}, Janet Snow², Hilary Pavlidis², Gregory Archer³ ¹*Adare Biome*, ²*CSA Animal Nutrition*, ³*Texas A&M University*

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Home-made liquid probiotic reduced egg yolk cholesterol and improved bird performance

Adekoyejo Oyegunwa^{*}, Gbenga Kassim, Oluwole Banjo *Tai Solarin University of Education*

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Evaluating the effects of a synbiotic (probiotic + prebiotic) alone or in combination with a precision-biotic on broiler performance

Chasity Pender^{*1}, April Levy¹, Shelby Corray¹, Gregory Archer² ¹*DSM Nutritional Products*, ²*Texas A&M University*

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Impact of Alterna® HTS on *Histomonas meleagridis* induced lesion scores and mortality in poult during a challenge

Ashley Wagner*, Bertrand Medina¹, Ivan Girard¹, Jessica Suagee-Bedore² ¹*Probiotech International Inc.*, ²*Virginia Tech*

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A triple strain probiotic demonstrates high siderophore activity: a new step towards the understanding of pathogen inhibition in poultry

Antoine Meuter*, Line Skjoet Rasmussen *Chr. Hansen, A/S*

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Supporting normal function of the gastro-intestinal tract with effective probiotics

Christophe Bostvironnois*, Jean Bodin¹, Antoine Meuter¹, Steve Lerner², Eric Sobotik² ¹*Animal Plant Health & Nutrition, Chr. Hansen A/S*, ²*Animal and Plant Health & Nutrition, Chr. Hansen, Inc.*

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Effects of dietary supplementation of medium chain fatty acids on gut health in broilers challenged with *Salmonella heidelberg*

Carlos del Cuvillo*, Mónica Puyalto¹, Hebert Silveira², Giselle da Silva Gallio³, Juan José Mallo¹ ¹*Norel SA*, ²*Natural BR Feed*, ³*Nutrinzoo*

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Effects of Phytogetic feed-additives on growth performance, carcass parameters, and meat quality of male broilers.

Garrett Mullenix*, Sami Dridi *University of Arkansas*

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Effect of the probiotic strain *Enterococcus faecium* 669 on intestinal colonization and influence on the microbiome composition of broiler chickens.

Antoine Meuter*, Christophe Bostvironnois¹, Dorte Sandvang¹, Eric Sobotik² ¹*Animal and Plant Health & Nutrition, Chr. Hansen, A/S*, ²*Animal and Plant Health & Nutrition, Chr. Hansen, Inc.*

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Effect of an energetic metabolism enhancer on laying hens' growth and performance

Juan Miguel Ruiz Rodriguez*, Hasliza Abu Hassim², Annas Salleh², Octavi Colom¹ ¹*Igusol Advance S.A.*, ²*Universiti Putra Malaysia*

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Effects of various concentrations of supplemental biochar on ileal digestible energy and live performance of broilers during an 8-week production period

Klint McCafferty*, Joseph Purswell *USDA-ARS Poultry Research Unit*

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Stacking feed and water additives to reduce *Salmonella* shedding in broilers

Wendy Attuquayefio, James McNaughton* *AHPharma, Inc.*

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Effects of *Yucca schidigera* plant extract on the performance and blood gases of broiler chickens

Marquisha Paul, Rebecca Delles*, Elizabeth Meza, Michael Ford, Tuoying Ao, Anthony Pescatore, Daniel Graugnard, Ronan Power *Alltech-University of Kentucky Nutrition Research Alliance*

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Mitigation of *Salmonella Typhimurium* in an in vitro broiler cecal culture with a yeast fermentate

Dana Dittoe¹, Lindsey Wythe¹, Abe Scheaffer², Steven Ricke*¹ ¹*Meat Science and Animal Biologics Discovery, University of Wisconsin-Madison*, ²*SweetPro LLC*

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Impact of a yeast fermentate on *Salmonella Typhimurium* control in an in vitro broiler intestinal model

Dana Dittoe¹, Lindsey Wythe¹, Abe Scheaffer², Steven Ricke*¹ ¹*Meat Science and Animal Biologics Discovery, University of Wisconsin-Madison*, ²*SweetPro LLC*

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Describing the ileal microbiota development in broilers when fed varying levels of a yeast fermentate product

Lindsey Wythe¹, Dana Dittoe¹, Abe Scheaffer², Steve Ricke^{*1} ¹*Meat Science and Animal Biologics Discovery Program, Department of Animal and Dairy Science, University of Wisconsin*, ²*Harvest Fuels Inc*

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Natural choline supplementation increases performance in broilers

Matheus Ramalho Lima¹, Isabelle Kaneko², Adiel de Lima², Lucas de Melo², Mário de Lima², Anna Neusa Brito², Fernando Perazzo Costa², Andreia Villas Boas^{*3}, Ana Toledo³, Sigfrido Ferre³, Saravana Kumar⁴, Ajay Kumar⁴, Archibald Netto⁴ ¹*Universidade Federal Rural do Semi-Árido*, ²*Universidade Federal da Paraíba, UFPB*, ³*Indukern do Brasil Química Ltda*, ⁴*Natural Remedies Private Limited*

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Oregano essential oil improves performance and survival rate in turkeys challenged with *Eimeria* spp., *Cochlosoma anatis* or *Histomonas*

Chongxiao Chen¹, Anna-Lena Beckmann², Thilo Borchardt^{*2} ¹*University of Georgia*, ²*Dostofarm GmbH*

Metabolism and Nutrition: General Nutrition

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Influence of feed form and corn particle size on growth performance and meat quality of broiler chickens

Basheer Nusairat^{*1}, Mohammad Qaddoura alhaj¹, Wilmer Pacheco², kamel Mahmoud¹

¹Jordan University of Science and Technology, ²Auburn University

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Determining an ideal dietary combination of starch, amino acids, and oil levels during the grower phase of broilers infected with coccidiosis

Julianna Jespersen^{*1GS}, Juliano de Paula Dorigam², Rose Whelan², Maci Oelschlager¹, Kaitlyn Sommer¹, Bradley Gorenz¹, Robin White³, Ryan Dilger¹ ¹University of Illinois, ²Evonik Nutrition & Care GmbH, ³Virginia Tech

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The impact of retention time during the conditioning process of a starter diet on broilers grown to 21 days

Rachel Strobeck^{*1UG}, Abigail McConnell¹, Cecilia Broadwater¹, Joseph Gulizia², Wilmer Pacheco², Kevin Downs¹ ¹Middle Tennessee State University, ²Auburn University

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Plasma, digesta, and litter attributes in broiler chickens fed different protein sources in the first 10 days of life

Anastasia Tsementzis^{*1}, Anderson Maina¹, Colin De Cloet¹, David Trott², Lee-Anne Huber¹, Elijah Kiarie¹ ¹University of Guelph, ²Wallenstein Feed & Supply Ltd.

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Growth performance of broilers in response to increasing concentration of multiple mycotoxins in contaminated corn

Allison Blomme^{*1GS}, Khairy Jenkins², Kara Dunmire¹, Haley Ott¹, Charles Stark¹, Chad Paulk¹

¹Department of Grain Science and Industry, College of Agriculture, Kansas State University,

²Department of Animal Sciences, College of Agriculture and Environmental Sciences, North Carolina Agricultural and Technical State University

P353

Hemp Seed Cake increases Fatty Acids, Enhances Gut Health but does not transfer Cannabinoids in Eggs and Tissues of Laying Hens

Fausto Solis^{*1}, Kasula Rajasekhar¹, Byron Shaffer², Frank Connett², Chris Barrett², Rodney Cocker², Eric Willingham³ ¹Wenger Animal Nutrient & Technology Innovation Center, The Wenger Group, ²Kreider Farms, 1461 Lancaster Rd., ³Winfield Veterinary Consulting, Inc.,

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Energy and nutrient utilization of corn varieties differing in endosperm hardness and dried at two temperature levels, evaluated by two methods in broilers

Joaquin Cabanas-Ojeda^{*}, Nicolas Mejia-Abaunza, Paula Lozano-Cruz, Valmiro Lima Aragão Neto, Muhammad Ali, Maria Camila Alfaro-Wisaquillo, Gustavo Quintana-Ospina, Lina Penuela-Sierra, Edgar Oviedo-Rondon *Prestage Department of Poultry Science, North Carolina State University*

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The effects of varying temperatures and times in a hot water bath on trypsin inhibitor activity

Erika King^{*UG}, Victoria Ayres, David Hobbs *Tennessee Tech University*

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Omega-3 fatty acid-rich fish oil reduced growth performance loss and improved gut barrier integrity during Eimeria infection

Yuguo Tompkins^{*}, Hanyi Shi, Venkata Sesha Reddy Choppa, Woo Kyun Kim *University of Georgia*

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Mycotoxin contamination trends in United States corn grain: 2018-2022

Paige Gott^{*1}, Lan Zheng¹, Chasity Pender¹, Ursula Hofstetter-Schahs², April Levy¹ ¹DSM Nutritional Products, ²DSM Austria GmbH

Metabolism and Nutrition: Vitamins and Minerals

P358

Effect of a polyphenol feed supplement used as antioxidant replacement of vitamin E in broiler diets

Karsten Kjeldsen^{*1}, Grete Brunsgaard¹, Klaus Männer² ¹R2 Agro A/S, ²Freie Universität Berlin

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Effects of the in ovo administration of L-ascorbic acid on the tissue L-ascorbic acid concentrations, plasma nitric oxide and mineral concentrations, and tracheal histomorphology of Ross 708 broilers subjected to elevated levels of atmospheric ammonia

Ayoub Mousstaaid¹, Saman Fatemi^{*1}, April Levy², Joseph Purswell³, Hammed Olanrewaju³, Brittany Baughman⁴, Kaylin McNulty⁴, Patrick Gerard⁵, Edgar Peebles¹ ¹Mississippi State University, Department of Poultry Science, ²DSM, ³USDA-ARS, ⁴Mississippi State University, Department of Pathobiology and Population Medicine, College of Veterinary Medicine, ⁵Clemson University, Department of Mathematical Sciences

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Effects of the in ovo administration of the Marek's Disease vaccine alone or in combination with the in ovo and dietary administration of supplemental 25-hydroxyvitamin D3 on the innate and adaptive splenic gene expression of 41-day-old Ross 708 broilers

Saman Fatemi^{*1}, ayoub Mousstaaid¹, April Levy², Sabin Poudel¹, Ishab Poudel¹ ¹Mississippi State University, Department of Poultry Science, ²DSM Nutritional Products

P361 Evaluation of transgenic *Chlamydomonas reinhardtii* for carotenoid and phytase production

Alessandro Rocchi^{*1UG}, Beth Ahner², Mohammed Yazdani², Indira Tjorkorda², Walter Bottje¹ ¹Department of Poultry Science, University of Arkansas, ²Department of Biological and Environmental Engineering, Cornell University

P362

Effect of in-feed inclusion of monovalent copper on performance, intestinal lesion score, and oocyst count in coccidiosis challenged broiler chickens

Nasima Akter^{*1}, Thi Dao¹, Afsana Jahan¹, Alip Kumar¹, Shubiao Wu¹, Sukirno Sukirno¹, David Cadogan², Alessandra Monteiro³, Ian Cockshott³, Amy Moss¹ ¹University of New England, ²Feedworks Pty. Ltd., ³Animine

P363

Evaluation of the stability of Vitamin A acetate concentrates mixed in a vitamin-trace mineral premix over a 56-day high temperature and humidity storage stress

Rosana Hirai^{*1}, Daniel De Leon¹, Macey Randig-Biar¹, Austin Silva¹, Ervey Sanchez¹, Audrey McElroy¹, Christopher Bailey¹, Nicolas Martinez², Adebayo Sokale², Lawrie Music² ¹Department of Poultry Science, Texas A&M University, ²BASF Corporation

P364

Effect of different levels calcium and phosphorus and their interaction with bone darkening on refrigerated and frozen storage cooked chicken leg quarters.

Luis Guzman^{*GS}, Amit Morey, Laura Garner, Charles Herron, Aftab Siddique, Katherine Sierra, Bet Wu, Micah Black Auburn University

P365

Evaluation of boron supplementation to a semi-purified diet fed to broiler chicks on growth performance, tibia mineral composition, and apparent total tract digestibility of nutrients.

Tyler Chevalier^{*}, Sunday Adedokun, Merlin Lindemann University of Kentucky

Poster Reception

Monday, January 23

4:00 – 6:00 p.m.

Milton L. Dendy Keynote Address

B313

Tuesday, January 24

11:00 a.m.

Dr. Mary Pantin-Jackwood, USDA ARS

Chair: Dr. Danielle Graham, UARK

SCAD Business Meeting

B312

Tuesday, January 24

Noon

Chair: Dr. Danielle Graham, UARK

SPSS Business Meeting

B314

Tuesday, January 24

Noon

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Micaela Sinclair-Black, UGA (L. Ellestad)

Pathology

Alison Ramser, UARK (S. Dridi)

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Zoie McMillan, UMD (S. Weimer)
Leopoldo Almeida, Auburn (W. Pacheco)

Travel Awards

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Caitlin Evans, KSU
Stephanie Philpot, Auburn

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Milan Sharma, UGA

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Poster: Samantha Plocher, MSSTATE (K. Wamsley)

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