



Department of Poultry Science
College of Agricultural & Environmental Sciences
UNIVERSITY OF GEORGIA

UGA POULTRY NUTRITION NEWSLETTER



Picture taken by Nicolás Mejía Abaunza

How does heat stress or hot weather affect feeding in poultry?
[Click here](#) to submit your comments.

August 2025

Editorial

This month, our comprehensive search captured 97 new publications in poultry nutrition from 49 journals across 35 countries (June 10th to July 10th, 2025, Web of Science), featuring top contributions from *Animals* (16), *Veterinary Medicine and Science* (7), *Frontiers in Veterinary Science* (6) and *Scientific report* (5), among others. [\(Download the complete list here\)](#)

In this issue, we handpicked 16 studies focusing on broilers (6), layers (6), turkey (1), literature reviews (3) and meta-analysis (1). These studies span 14 research institutes across 8 countries. Additionally, we've updated the poultry events calendar to assist in your planning and curated the latest industry news to keep you informed.

Enjoy the reading!

CHEN LAB

Dr. Chongxiao (Sean) Chen
Assistant Professor/ Extension Specialist
Department of Poultry Science,
University of Georgia





Broilers

In broilers, **1.5% rice hull from 11–24d and 1.5% sugar beet pulp from 25–42d**, improved FCR and BWG from 11–42d. it also resulted in higher ileum villus height to crypt depth ratio and neutral detergent fiber (NDF) digestibility.

Sari Agricultural Sciences and Natural Resources University (Iran) / [Link](#)

Plam kernel cake has AME at 2079.47 kcal/kg, and decanter cake has AME at 2011 kcal/kg. **Palm kernel cake** showed higher digestible protein, fat, and essential amino acid (methionine and arginine) but lower aspartic acid and alanine than decanter cake.

University Putra Malaysia / [Link](#)

Dehydrated egg (EGG), pea protein (PP), corn gluten meal (CGM), and mixtures of PP:EGG (25:75 and 75:25) or CGM:EGG (25:75 and 75:25) were evaluated for standardized ileal amino acid (SIDAA) digestibility using a precision-fed cecotomized rooster assay. EGG showed the highest SIDAA values, followed by PP and CGM, while the **digestibility of the mixtures** was **additive** and **predicted** based on their individual components.

University of Illinois Urbana-Champaign (USA) / [Link](#)

In 50-week-old broiler breeders, **in ovo feeding of L-methionine** (3.5 mg/egg) during summer increased the hatchability %, body length (d 1), live performance, and catalase, while reducing the urea nitrogen, malondialdehyde, inflammatory cytokines (IL-8 & TNF- α), and relative gene expressions in liver and ileum at d21 post hatch, compared to control, arginine (6mg/egg) and leucine (8.4mg/egg) treatment groups.

Chinese Academy of Agricultural Sciences (China) / [Link](#)

In ovo injection of 0.55% l-Tryptophan on d 14 of incubation improved the broiler's growth performance, livability %, production index, intestinal morphology (villus length: crypt depth), and cecal microbial counts (*E. coli* and *Lactobacillus*) at d 21 post hatch.

Animal Science Research Institute of Iran (Iran) / [Link](#)

This meta-analysis study reviewed scientific papers from 2016–2024 on the dietary value of **black soldier fly larva (BSFL)** on broilers. Results showed BSFL improved broiler performance, meat quality, and physiological health. However, BSFL meal effects was not favorable on blood serum triglycerides, cholesterol, and LDL.

Universitas of Airlangaa (Indonesia) / [Link](#)



Layers

In layer hens, **the small intestine and ceca expressed** transporters and hormonal signaling related to Ca and P absorption, with the ileum and the ceca highlighted as important tissues in maintaining the homeostatic of Ca and P.

University of Georgia (USA) / [Link](#)

Forty-five 28-day-old yellow-feathered birds were challenged with either 2.0×10^4 sporulated *E. maxima* or *E. tenella*. Infection with ***E. maxima***, rather than *E. tenella*, **disrupts the digestion and absorption of dietary lipids** and shows undigested fatty acids in the feces.

Yangzhou University (China) / [Link](#)

Layer chicks fed a diet formulated based on a **predictive model for protein and amino acid requirements** from 0 to 6 week resulted in lower CP, methionine, lysine, and threonine intake; additionally had equivalent FI, BWG, and FCR to standard basal diet group.

Huazhong Agricultural University (China) / [Link](#)

In laying hens (20 to 35 wk), the **interaction of reduced TMEn (2750 kcal/kg) and lower Dig-Lys diet concentration (4.2 g/kg)** increased body weight and carcass fat, which correlated with higher average daily feed intake when fed lower Dig-Lys. Higher TMEn (2900 kcal/kg) worsened FCR (g feed/g egg mass; g feed/dozen eggs), but Dig-Lys (7.5 g/kg) improved it.

University of Pretoria (South Africa) / [Link](#)

In layers, dietary supplementation of **chitosan nano-selenium** (0.3 mg selenium/kg) improved haugh units from 48–52 weeks and selenium content (serum, liver, and ovary) during 48–56 weeks, while reducing the weight loss rate% during 3 weeks storage time without any effect on body weight, laying rate%, and FCR.

Sichuan Agricultural University (China) / [Link](#)

Dietary **fermented strawberry pomace** supplementation (0.5%) in aged laying hens reduced the 48 h meat pH, breast muscle drip, and leg muscle cooking loss %, plasma free fatty acids and glutathione peroxidase, while increasing the breast muscle antioxidant gene expression (MYH1B & SOD1).

Chinese Academy of Sciences (China) / [Link](#)

Turkeys

Dietary inclusion (5%) of **black soldier fly (*Hermetia illucens*) meal** improved the body weight, weight gain, and FCR in female turkey at 105 days of age. Additionally, cecal metabolites of glucose, malonate, isoleucine, betaine, and butyrate were increased or tended to increase, while tyramine and 3-phenylpropionate were decreased or tended to decrease.

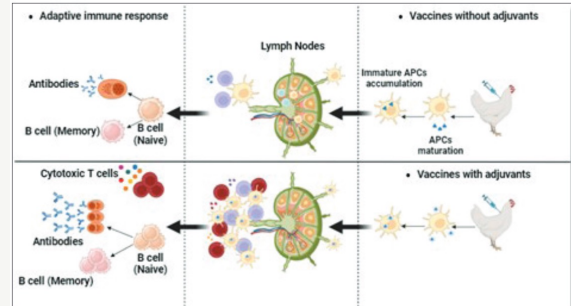
University of Bologna (Italy) / [Link](#)

Reviews

Saponins and Their Role as Vaccine Adjuvant Against Coccidiosis in Poultry

Vaccination is an effective strategy to control *Eimeria* spp. infections. However, the immune response stimulated by vaccines can temporarily reduce early weight gain in poultry. **Saponins**, plant-derived secondary metabolites, exhibit immunomodulatory and antioxidant properties, making them **promising adjuvants in the control of coccidiosis**. This review explores the functions, mechanisms of action, and potential limitations of saponins when used alongside vaccination strategies.

Qassim University (Saudi Arabia) / [Link](#)



Vaccine enhancement using adjuvants

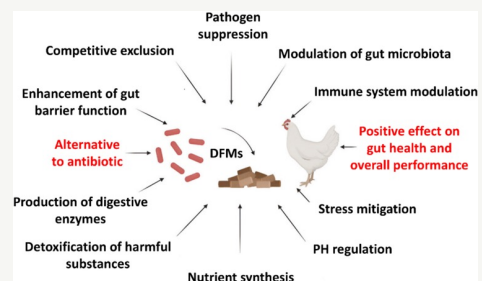
Research Progress on Non-Destructive Testing Technology and Equipment for Poultry Eggshell Quality

Food safety and quality involve quickly and precise egg selection and reliable real-time tracking systems to optimize production efficiency. This review compares **poultry eggshells characteristics** and traditional quality monitoring methods with current research on **intelligent non-destructive eggshell quality testing technologies and equipment**. However, precise limits during high-speed operations and adaptation to complex production environments demand additional refinement and the establishment of multi-model frameworks and integrated databases, as well as cost-effective solutions to support its greater commercial use.

Huazhong Agricultural University (China) / [Link](#)

Direct-fed Microbials (DFM) and Poultry Genomics: A Synergistic Approach to Sustainable Antibiotic Free Farming

Direct-fed Microbials (DFM) have shown promising potential in poultry production, particularly through advancements in sequencing and genetic modification technologies, immune modulation, gut health enhancement, and stress mitigation. However, several challenges limit their application, including high cost, inconsistent economic returns, and variability in growth performance and disease resistance. This review highlights the mechanisms of action, benefits, and limitations of DFM use in poultry systems.



Cairo University (Egypt) / [Link](#)



Meet our graduates

Bingqi Dong

I was born and grew up in China and later moved to Canada to pursue my undergraduate and **Master's degrees in Animal Science at the University of Manitoba**. It was during my studies there that I developed a strong interest in gut health and molecular and cellular mechanisms that influence intestinal development and function.

I **recently completed my Ph.D. in Dr. Rami Dalloul's lab**, where my research focused on using intestinal 3D cell models and nutritional interventions to improve intestinal health in chickens during disease challenges.

For the next chapter of my career, **I will be starting a postdoctoral position at Baylor College of Medicine**, where my research will focus on developing microbial-based delivery platforms to mitigate gastrointestinal acute radiation syndrome by targeting intestinal stem cells.



Trivia

Response to our previous trivia

Allison Kawaoku: Copper is an essential trace mineral in poultry, which has a multifaceted function participating in physiological processes as a cofactor for several metalloenzymes (e.g., cytochrome c oxidase, lysyl oxidase, and superoxide dismutase). Its supplementation in poultry has been proved to be efficient, not only for metabolism but also for gut health, and antioxidant and immune defense systems. The restrictions on antibiotic usage in poultry production have led to increased supplementation of copper in broiler diets due to its growth-promoting, anti-inflammatory, and antimicrobial effects.

Industry News

[August, 2025 Business Update \(Poultry World\)](#)

The summary of the latest business updates from the global poultry industry.

[Poultry's outlook positive but far from risk free \(WATT Poultry\)](#)

Poultry's outlook is strong, but disease, politics, and trade risks threaten stability.

[Is Latin America becoming the world's largest egg-consuming region? \(WATT Poultry\)](#)

Latin America's egg consumption is booming, with countries like Mexico and Brazil surpassing 300 eggs per person yearly, making it a global leader.

[US slaps steep new tariffs on Indian imports \(The Poultry Site\)](#)

Trade talks collapse amid oil, agri disputes with Delhi.



September

Liquid Feed Symposium | Fort Worth TX | **9-11** | [Link](#)
Shell Egg Academy | West Lafayette IN | **9-11** | [Link](#)
XXVII Congreso Centro Americano & del Caribe de Avicultura | Ciudad de Panama Panama | **10-12** | [Link](#)
California Poultry Federation Annual Conference | Monterey CA | **11-12** | [Link](#)
NTF Leadership Conference | Washington D.C. | **15-17** | [Link](#)
NPFDA 2025 Fall Meeting | Providence RI | **15-17** | [Link](#)
Pennsylvania Poultry Sales and Services | State College PA | **17-18** | [Link](#)
Environmental Management Seminar | Destin FL | **18-19** | [Link](#)
UGA Layers Conference | Virtual | **22** | [Link](#)
Arkansas Nutrition Conference | Rogers AR | **23-25** | [Link](#)
UGA Broiler Conference | Athens GA | **23** | [Link](#)
60th National Meeting on Poultry Health, Processing, and Live Production | Ocean City MD | **29-1** | [Link](#)

October

GA National Fair | Perry GA | **2-12** | [Link](#)
XXIIIrd WVPA Congress | Kuching Malaysia | **6-10** | [Link](#)
PSA Pacific Rim Scientific Conferences | Macau China | **13-16** | [Link](#)
Sunbelt Ag Expo | Moultrie GA | **14-16** | [Link](#)
Poultry Symposium for Production & Processing | Rogers AK | **14-15** | [Link](#)
Poultry Protein & Fat Seminar | Nashville TN | **15-16** | [Link](#)
Georgia Poultry Strong | Peachtree Pointe @ Lanier Islands GA | **18** | [Link](#)
Southern Feed & Grain Convection | Orange Beach AL | **26-29** | [Link](#)
PSA Pathways Summit | Minneapolis | **27-28** | [Link](#)
International Conference on Poultry Science | Lisbon Portugal | **28-29** | [Link](#)

November

Poultry Tech Summit | Atlanta GA | **3-6** | [Link](#)
Equipment Manufacturers Conference | Rancho Mirage CA | **5-7** | [Link](#)
Cold Weather Management Workshop | Athens GA | **11-13** | [Link](#)
VIV MEA | Abu Dhabi UAE | **25-27** | [Link](#)
PS Open House (Pre-professional) | Athens GA | **TBD** | [Link](#)

2026 - January

NPFDA Annual Convention and Showcase | Atlanta GA | **26-29** | [Link](#)
International Production & Processing Expo | Atlanta GA | **27-29** | [Link](#)
AFIA Feed Education Program | Atlanta GA | **27-29** | [Link](#)
International Poultry Short Course | Athens GA | **TBD** | [Link](#)

February

International Conference on Poultry Science | Lisbon Portugal | **8-9** | [Link](#)
Southeastern Grain & Feed Association Convention | Charleston SC | **18-20** | [Link](#)
NTF Annual Convection | Fort Lauderdale FL | **18-21** | [Link](#)

March

Annual Meat Conference | Oxon Hill MD | **2-4** | [Link](#)
Purchasing and Ingredient Suppliers Conference | Fort Worth TX | **9-11** | [Link](#)
VIV Health & Nutrition | Bangkok Thailand | **10-12** | [Link](#)
Western Poultry Disease Conference | San Diego CA | **16-18** | [Link](#)
NC Processing & Products Academy | Raleigh NC | **17-19** | [Link](#)
Food Safety Conferences | TBD | **TBD** | [Link](#)
Feed Mill Management Seminar | TBD | **TBD** | [Link](#)
Deep South Poultry Conference | Tifton GA | **TBD** | [Link](#)

April

PEAK | Minneapolis MN | **14-16** | [Link](#)
9th International Conference on Poultry Intestinal Health | Istanbul, Turkey | **22-24** | [Link](#)
Shell Egg Academy | Virtual | **27-1**
AFGA Nutrition Seminar | Huntsville AL | **28-30** | [Link](#)
North Central Avian Disease Conferences | TBD | **TBD** | [Link](#)
UGA Hot Weather Workshop | Athens GA | **TBD** | [Link](#)
Poultry Market Situation | TBD | **TBD** | [Link](#)
Workforce Success & Engagement Conference | TBD | **TBD** | [Link](#)

May

Stakeholders Summit | Kansas City MO | **5-7** | [Link](#)
Precision Livestock Farming | Athens GA | **24-27,2027** | [Link](#)
Poultry Processor Workshop | TBD | **TBD** | [Link](#)
Texas Commercial Egg Clinic | TBD | **TBD** | [Link](#)

June

Poultry Health Management School | Pomona CA | **1-4** | [Link](#)
VIV Europe | Utrecht The Netherlands | **2-4** | [Link](#)
Feed Industry Institute | Minneapolis MN | **15-18** | [Link](#)
FSPCA PCQI Training | TBD | **TBD** | [Link](#)
Avian Academy Teacher Education Program 2.0 | Athens GA | **TBD** | [Link](#)
Financial Management Seminar | TBD | **TBD** | [Link](#)
Southeast Egg Industry Regional Conference | TBD | **TBD** | [Link](#)
Avian Academy Teacher Education Program | Athens GA | **TBD** | [Link](#)

July

Poultry Science Association Annual Meeting | Toronto Canada | **10-13** | [Link](#)
World's Poultry Congress | Toronto Canada | **13-17** | [Link](#)
Texas Poultry Federation Annual Convention | San Antonio TX | **16-18** | [Link](#)
AAAP 69th Annual Meeting | Orlando FL | **28-30** | [Link](#)
Hatchery Breeder Clinic | TBD | **TBD** | [Link](#)
SC Poultry Federation Annual Conference | TBD | **TBD** | [Link](#)
State 4-H Congress | TBD | **TBD** | [Link](#)
Chicken Marketing Summit | TBD | **TBD** | [Link](#)

August

SIAVS | Sao Paulo Brazil | **4-6** | [Link](#)
Simpósio ACAV | TBD | **TBD** | [Link](#)
National Safety Conference for the Poultry Industry | TBD | **TBD** | [Link](#)
Women's Leadership Conference | TBD | **TBD** | [Link](#)

TBD - Upcoming

Poultry Sustainability and Welfare Summit | Atlanta GA | **September 21-24 (2026)** | [Link](#)
EuroTier | Hanover Germany | **November 10-13 (2026)** | [Link](#)
Latin America Poultry Congress | Ciudad de Guatemala Guatemala | **November 11-13 (2026)** | [Link](#)
VIV Asia | Bangkok Thailand | **March 10-12 (2027)** | [Link](#)
Purchasing and Ingredient Suppliers Conferences | Orlando FL | **March 16-18 (2027)** | [Link](#)
European Symposium on Poultry Nutrition | TBD | **TBD (2027)** | [Link](#)

Edited by

Nicolás Mejía-Abaunza, DVM., Master's Student
Federico Etcheverry, Ag. Eng., M.S., Ph.D. Student
Chongxiao (Sean) Chen DVM., Ph.D., Assistant Professor

Last updated August 2025

Contact us sean.chen@uga.edu



The Editorial Team



Dr. Chongxiao (Sean) Chen,
D.V.M., Ph.D.

Assistant Professor/ Extension Specialist
Editor-in-Chief



Federico Etcheverry,
Ag. Eng., M.C., Ph.D. student

Graduate Research Assistant
Co-editor, graphic designer, translator
(Spanish & Portuguese)



Nicolás Mejía-Abaunza,
D.V.M., M.S. student

Graduate Research Assistant
Web designer, social media manager,
research summary writer, translation
proofreader (Spanish)



Muhammad Ali,
D.V.M., M.S., Ph.D. student

Graduate Research Assistant
Research summary writer



Allison J.T. Kawaoku,
D.V.M., M.S. student

Graduate Research Assistant
Research summary writer, translation
proofreader (Portuguese)



Matthias Intriago,
B.S., M.S. student

Graduate Research Assistant
Research summary writer



 Check www.poultrynutritionhub.com for more.

 [Subscribe](#) to UGA Poultry Nutrition Newsletter.

 Check out [FeedMixer](#): feed formulation at your fingertips.

Follow us in social media:



Instagram



LinkedIn