



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

UGA POULTRY NUTRITION NEWSLETTER



What do you see in this picture? [Click here](#) to submit your answers.
The responses will be featured in the next issue.

November 2024

Editorial

By November 2025, our subscriber base has grown to 590 readers across 82 countries, with the USA leading, followed by Pakistan, India, and Brazil. We sincerely thank you for your continued support!

This month, our comprehensive search captured 69 new publications in poultry nutrition (from Sep 15th to Oct 15th, 2024, Web of Science), featuring top contributions from the USA, PRC, and Pakistan. Leading journals include *Poultry Science*, *Journal of Animal Science*, and *British Poultry Science*. The complete list and search strategies are attached ([Download](#)).

In this issue, we handpicked 15 studies focusing on broilers (10), layers (2), quail (1), turkey (1), and mycotoxins (1), along with 2 literature reviews. These studies span 15 research institutes across 9 countries. Summaries were prepared by our dedicated MS and Ph.D. students and finalized with my review and revisions. Special thanks to Federico for translations into Spanish and Portuguese, and to Nick and Allison for their proofreading. Additionally, we've updated the poultry events calendar to assist in your planning and curated the latest industry news to keep you informed.

Feedback Request

Help us refine our search capabilities! Share suggestions or additional keywords to enhance our research coverage: [download current search strategies](#) and [click to submit new keywords](#). Thank you for reading, and enjoy this month's insights!

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





Broilers

In broilers under cyclic heat stress conditions, adding **glycine** at 0.4, 0.8, or 1.6% from 25–42 days of age linearly improved FCR, jejunum villus height, goblet cells, and decreased blood AST.

Chung-Ang University (Republic of Korea) / [Link](#)

In subclinical necrotic enteritis-challenged broilers (NE), 125% and 135% **arginine** restored the alpha diversity and gut microbial homeostasis at d 21. Meanwhile, 125% arginine increased cecal propionate and total short-chain fatty acid concentrations at d 28.

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

In broilers, **various particle size** grains in pelleted feed did not impact the performance, gizzard pH, and ileal digestibility coefficient of starch and protein. However, mixing pelleted diets with different ratios of ground grains affected the performance at various levels, possibly due to the low feed intake and particle selection of birds.

Norwegian University of Life Sciences (Norway) / [Link](#)

In slow-growing Korat chickens, *in Ovo* feeding of 1% **L-Arg** and 0.3% mg/egg of **selenium nanoparticles** improved the FCR, breast muscle protein content while decreasing the breast muscle diameter, drip loss %, and GSH-Px activity (units/g) at d 63.

Suranaree University of Technology (Thailand) / [Link](#)

In broiler, dietary **microencapsulated blend of organic acids and bioactive compounds** (150/300/450/600 g/t) influenced meat quality and sensory properties. At 300 g/t, lipid stability and consumer acceptances were improved, while higher doses showed pro-oxidative effects. There were no significant differences in thawing losses, shear force, L*, and b* among treatments.

Federal University of Paraná (Brazil) / [Link](#)

Three resistant starch sources (**banana/raw potato/high-amylose corn starch**) were fed to broilers at three levels (25/50/100 g/kg). Banana starch resulted in the highest FCR and the lowest nutrient digestibility, retention, and metabolizable energy.

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

Five **Dietary Electrolyte Balance (dEB)** levels (110, 175, 240, 305 and 370 mEq/kg) were evaluated in broilers. Water intake and villus width in the duodenum and ileum were greater when fed dEB at 370 mEq/kg. No differences were observed in performance and carcass yield.

Federal University of Piauí (Brazil) / [Link](#)



The **copper nanoparticles** above 100 ppm inhibited *Salmonella in vitro* in feed and water. However, no significant difference in performance, gut health, or bacteria loads was found while adding 100 ppm copper nanoparticles to broilers' diets.

Federal University of Rio Grande do Sul (Brazil) / [Link](#)

In broiler breeder hens, 13 **feeding programs** were studied and showed complex interactions between feeding and reproductive efficiency. Overall, feeding twice or thrice/day increased liver weight and reduced ovary weight and follicle counts.

Islamic Azad University (Iran) / [Link](#)

Layers

In Lohman laying hens (48–71 wks), **xylo-oligosaccharide (XOS)** supplementation (100/200/300/400 mg/kg) improved egg production but did not affect overall quality egg (eggshell strength, Haugh unit, and albumen height). 100 to 300 mg/kg reduced sand-shell egg (1–12 wks). XOS also increased butyric acid and isovaleric acid levels in the ceca. Overall, 200 mg/kg was recommended.

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

Laying hen fatty liver hemorrhagic syndrome (FLHS) was induced by feeding a low-protein, high-fat diet, which resulted in low muscle tenderness, water-holding capacity, and impaired liver function, which led to abnormal blood and breast muscle lipid profiles.

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

Turkeys

The administration **doxycycline and enrofloxacin** in turkeys (0–5 days) resulted in liver residue at day 56, but the levels were below the maximum limit. However, continuous administration of **monensin** increased liver residues over time (0–56 days). Both doxycycline and enrofloxacin adversely affected antioxidant status, with doxycycline having a lesser effect.

University of Life Sciences (Poland) / [Link](#)

Quails

In quails, **sodium butyrate** (0.5g/kg) mitigated T-2 toxin-induced oxidative stress-related cytokines and nuclear receptors in the kidney and liver, subsequently alleviating hepatic and renal damage.

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

Mycotoxins

Ducks exposed to 800ug/kg of bodyweight **T-2 toxin** for two weeks exhibited reduced body weight and feed intake. T-2 toxins (200–800 ug/kg of body weight) also increased liver damage, lipid accumulation, and oxidative stress.

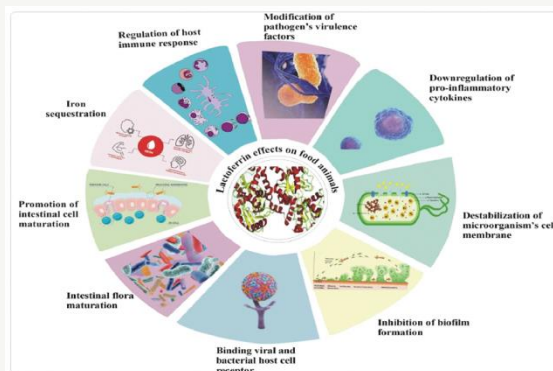
China Agricultural University (China) / [Link](#)

Reviews

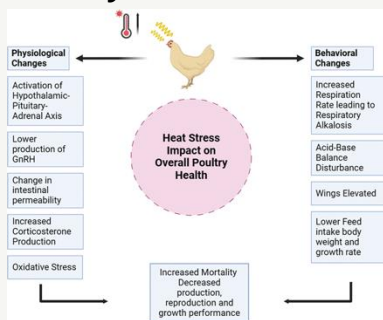
Iron-bearing lactoferrin a functional feed additive for poultry industry: a review on health benefits and nutritional advancement

Lactoferrin, a bioactive glycoprotein, could support gut health, enhance immune function, and reduce inflammation and oxidative stress in young animals. It improved growth performances in poultry and showed antibacterial properties, serving as an alternative to AGP. However, further research is needed to determine optimal dosing. This review explores lactoferrin's role as a feed additive and growth promoter, highlighting its health and nutritional benefits.

Jiangsu University (China), [Link](#)



Role of feed additives in mitigating the impact of heat stress on poultry gut health and productivity

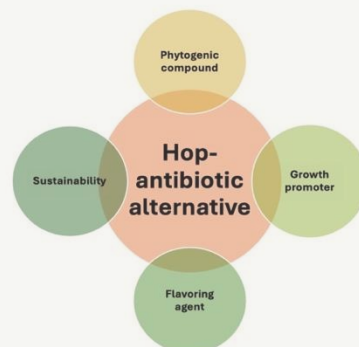


Heat stress adversely affects intestinal health, disrupting the gut microbiota and increasing intestinal permeability, affecting immunity, physiological homeostasis, and growth rates. This review examines the roles of feed additives, including **prebiotics**, **probiotics**, **organic acids**, and **phytochemicals**, as potential strategies for controlling heat stress in poultry.

Arid Agriculture University (Iran) / [Link](#)

Hops as an alternative to the use of antibiotics

Antibiotics in chicken feed have been used to prevent disease and growth promoters, but they are associated with risks of antimicrobial resistance. The use of phytogenic feed additives is a viable alternative, and **hops** (*Humulus lupulus*) is one of such phytogenic feed additives. This review covers antibiotic usage and effects in poultry, hop as a phytogenic feed additive, showing antibiotic potential in vitro and in vivo, and its potential benefits in poultry production.



Friedrich-Alexander-Universität (Germany) / [Link](#)



Meet our Graduates

Iyabo Wuraola Oluseyifunmi

I recently defended my **Ph.D. in Poultry Nutrition** under the mentorship of Dr. Oluyinka Olukosi, focusing on the nutritional and physiological aspects of the use of resistant starch as functional fiber in broiler chickens' diets. My research demonstrated that the use of resistant starch in improving gut health in broiler chicken was influenced by factors such as the botanical origin and the level of inclusion which could potentially benefit growth during early development and in the prepatent phase of *Eimeria* challenge. I am **passionate about translating research findings into practical insights** for stakeholders and look forward to contributing to projects that advance poultry industry. Having the right tool for each task makes the Poultry Science Department at the University of Georgia very unique. My advice for future poultry professionals is to clearly identify a research path, stay focused and be diligent, and maintain an open mind while conducting their research.



Industry News

October 2024 Business Update (Poultry World)

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

Four ways Trump could impact the agriculture sector during second term (Missouri Independent)

Donald Trump's second term could impact U.S. agriculture by reversing climate policies, stricter immigration measures affecting labor, trade tariffs risking export markets, and further industry deregulation.

Feed Ingredients Vitamin, amino acid market volatility concerns US feed industry (Feed Strategy)


The U.S. feed industry faces volatility in amino acid and vitamin supplies due to supply chain issues and global tensions, prompting new legislation to secure resources.

U.S. Poultry Industry Provides 2 Million Jobs and \$663.6 Billion in Economic Impact (US Poultry & Egg)

The U.S. poultry industry provides 2,012,560 jobs, \$132.7 billion in wages, \$663.6 billion in economic activity and \$54 billion in government revenue.



2025 – January

[International Poultry Short Course](#) | Athens GA | **21-24** 
[NPFDA Annual Convention and Showcase](#) | Atlanta GA | **27-30**
[International Production and Processing Expo](#) | Atlanta GA | **28-30**
[AFIA International Feed Expo](#) | Atlanta GA | **28-30**
Feed Your ESG: How Will Help Hit Sustainability Targets | Atlanta GA | **TBD**

February

[International Conference on Poultry Science](#) | Lisbon Portugal | **3-4**
[NTF Annual Convection](#) | Scottsdale AR | **19-22**



March

[Food Safety Conferences](#) | Hot Spring AR | **4-6**
[IPWA Annual Meeting](#) | Bangkok Thailand | **11**
[NC Processing and Products Academy](#) | Raleigh NC | **11-13**
[VIV Asia](#) | Bangkok Thailand | **12-14**
[Purchasing and Ingredient Suppliers Conference](#) | Orlando FL | **18-20**
[Feed Mill Management Seminar](#) | Nashville TN | **20-21**
[Annual Meat Conference](#) | Orlando FL | **24-26** 
[Deep South Poultry Conference](#) | Tifton GA | **26** 
Alumni & Friends Reception | Tifton GA | **TBD**



April

[West Poultry Disease Conference](#) | Calgary Canada | **7-9**
[North Central Avian Disease Conferences](#) | Minneapolis MN | **7-8**
[PEAK](#) | Minneapolis MN | **8-10**
[UGA Hot Weather Workshop](#) | Athens GA | **15-17** 
[Workforce Success and Engagement Conference](#) | Destin FL | **16-18**
[AFGA Nutrition Seminar](#) | Huntsville AL | **22-24**
[Stakeholders Summit](#) | Arlington VA | **30-2**
[UGA Hatchery Workshop](#) | Athens GA | **TBD** 
GPF Annual Meeting and Legacy Golf Tournament | TBD | **TBD** 

May

[Precision Poultry Seminar](#) | Virtual | **6** 
[Poultry Processor Workshop](#) | Nashville TN | **13-14**
[Poultry Health Management School](#) | Ames IA | **19-22**
International Avian Respiratory Disease Conference | TBD | **TBD** 
[Texas Commercial Egg Clinic](#) | Bryan TX | **TBD**

June

[Avian Academy Teacher Education Program 2.0](#) | Athens GA | **16-18** 
[Financial Management Seminar](#) | Amelia Island FL | **16-18**
[Southeast Egg Industry Regional Conference](#) | Hilton Head SC | **17-19**
[Avian Academy Teacher Education Program](#) | Athens GA | **23-25** 
[24th European Symposium on Poultry Nutrition](#) | Maastricht The Netherlands | **23-26**
FSMA PCQI Training | TBD | **TBD**
[64th Annual Poultry Festival](#) | Rogers AK | **TBD**

July

[Hatchery Breeder Clinic](#) | Nashville TN | **8-9**
[Poultry Science Association Annual Meeting](#) | Raleigh NC | **14-17**
[State 4-H Congress](#) | Atlanta GA | **22-25**
[Chicken Marketing Summit](#) | Savannah GA | **28-30**

Edited by

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

[AAAP 68th Annual Meeting](#) | Portland, OR | **29-31**
[SC Poultry Federation Annual Conference](#) | TBD | **TBD**
[International Symposium on Mavker's Disease and Avian Herpesviruses](#) | TBD | **TBD**

[Texas Poultry Federation Annual Convention](#) | TBD | **TBD**

August

[National Safety Conference for the Poultry Industry](#) | Destin FL | **18-20**
[Women's Leadership Conference](#) | Destin FL | **21-22**
[Arkansas Nutrition Conference](#) | Rogers AR | **TBD**



September

[Environmental Management Seminar](#) | Destin FL | **18-19**
[UGA Layers Conference](#) | Virtual | **22** 
[UGA Broiler Conference](#) | Athens GA | **24** 
[Poultry Sustainability and Welfare Summit](#) | TBD | **TBD**
[Liquid Feed Symposium](#) | Fort Worth TX | **9-11**
[Shell Egg Academy](#) | TBD | **9-11**
[California Poultry Federation Annual Conference](#) | Monterey CA | **11-12**
[NPFDA 2025 Fall Meeting](#) | Providence RI | **15-18**
[NTF Leadership Conference](#) | Washington D.C. | **TBD**
59th National Meeting on Poultry Health, Processing, and Live Production | TBD | **TBD**
International Avian Influenza and One Health Emerging Issues Summit | TBD | **TBD**

October

[GA National Fair](#) | Perry GA | **2-12**
[XXIIrd WVPA Congress](#) | Kuching Malaysia | **6-10**
[PSA Pacific Rim Scientific Conferences](#) | Macau China | **13-16**
[Sunbelt Ag Expo](#) | Moultrie GA | **14-16**
[Poultry Protein & Fat Seminar](#) | Nashville TN | **15-16**
[Georgia Poultry Strong](#) | Peachtree Pointe @ Lanier Islands GA | **18**
[Southern Feed & Grain Convection](#) | TBD | **26-29**
[International Conference on Poultry Science](#) | Lisbon Portugal | **28-29**
Live Production, Welfare & Biosecurity Seminar | TBD | **TBD**
Poultry Symposium for Production & Processing | TBD | **TBD**
PSA Professional Development Conference | TBD | **TBD**

November

[Poultry Tech Summit](#) | Atlanta GA | **3-6**
National Breeders Roundtable | Nashville TN | **TBD**
Symposium on Gut Health in Production of Food Animals | St Louis MO | **TBD**
[Cold Weather Management Workshop](#) | Athens GA | **TBD** 
PS Open House (Pre-professional) | Athens GA | **TBD** 

TBD – Upcoming

[9th International Conference on Poultry Intestinal Health](#) | Istanbul, Turkey | **April 22-24 (2026)**
[Feed Industry Institute](#) | Minneapolis MN | **June 15-18 (2026)**
[World's Poultry Congress](#) | Toronto Canada | **July 13-17 (2026)**
Food Animal Innovation Summit | Raleigh NC | **TBD**


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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.S., 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)







Catherine Fudge,
B.S., M.S., Ph.D. Student 
Graduate Research Assistant
Research summary writer



Muhammad Ali,
D.V.M., M.S., Ph.D. Student 
Graduate Research Assistant
Research summary writer



Allison J.T. Kawooku,
D.V.M., M.S. student 
Graduate Research Assistant
Research summary writer, translation
proofreader (Portuguese)

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