



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

UGA POULTRY NUTRITION NEWSLETTER



What are the 3 main differences between broiler and turkey nutritional requirements?
[Click here](#) to submit your answers. The responses will be featured in the next issue.

March 2025

Editorial

We're excited to announce the upcoming Poultry Nutrition 101 Online Course, which is currently in development. This course is designed for the general public, growers, industry professionals, and non-nutrition academic groups interested in poultry nutrition and feed management. This interactive course will provide fundamental and applied poultry nutrition knowledge. Stay updated by [Clicking here](#)!

This month, our comprehensive search captured 68 new publications in poultry nutrition (from Jan 10th to Feb 10th, 2025, Web of Science), featuring top contributions from *Poultry Science* (34), *Journal of Animal Physiology and Animal Nutrition* (4), *Journal of Animal Science and Biotechnology* (3), and *Frontiers in Veterinary Science* (2). ([Download the complete list here](#))

In this issue, we handpicked 16 studies focusing on broilers (9), layers (2), quails (2), duck (1), meta-analysis (1), and literature review (1). These studies span 14 research institutes across 10 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

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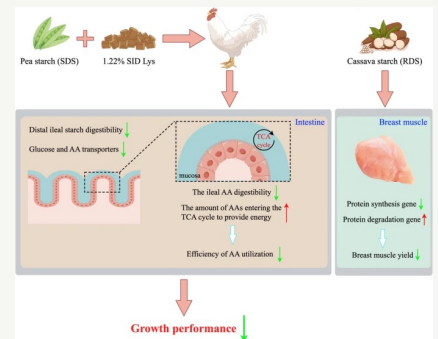
Broilers

Adding **acidifiers** in water did not impact growth parameters in broilers. Water acidification increased jejunal and cecal length and duodenal villus height/crypt depth ratio at D42. Both treatments improved the cecal microbiome and reduced pathogenic bacteria, including *Escherichia* and *Shigella spp.*

Jiangsu Institute of Poultry Science (China) / [Link](#)

Broilers were fed diets containing **three different starch sources** (corn/cassava/pea; 25% inclusion each) and **four SID Lys levels** (0.92/1.02/1.12/1.22%) from days 22 to 42. slow digestible starch (pea) reduced the starch and AA's digestibility and growth performance. Rapidly digestible starch (cassava) reduces breast muscle and interacts with protein levels.

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



On-farm hatching only weighed more during the first week than the hatchery-hatched broilers. However, on-farm hatching also enhanced gut morphology, bursal relative weight, and modulated immunity. Hatchery-hatched chicks showed higher gut barrier gene expression and nutrient transporters, indicating adaptation to feed deprivation.

KU Leuven (Belgium) / [Link](#)

Broilers fed **peroxidized soybean oil (SO)** induced by processing at 135°C showed reduced BWG and FI, while at 90°C, reduced feed efficiency than untreated SO (23°C). Peroxidized SO's relative bioavailability dropped by 12–29%. Dietary levels of peroxide (PV) and anisidine values (AnV) can be used to predict the relative bird's performance.

USDA-Agricultural Research Service (USA) / [Link](#)

In broilers, 10% dietary replacement of soybean meal with **cottonseed meal (CSM)** in the starter phase impaired FCR, FI, and BW. In the finisher phase, 5% and 10% CSM reduced BWG, FI (10% CSM only) and 24h meat pH.

New Hope Liuhe Co. (China) / [Link](#)

In broilers, replacing 50% arginine with **0.092% guanidinoacetic acid (GAA) in reduced crude protein diets** resulted in low feed intake and a tendency to improve FCR during 10 to 35 days of age without interactions with heat stress conditions. Furthermore, it also reduce IL-1b gene expression and increased muscle and ileum creatine concentration.

South Australian Research and Development Institute (Australia) / [Link](#)



In broilers, **valine-deficient diets (Val:Lys 0.62)** compared to isoleucine-deficient diets (Iso:Lys 0.54) show a more significant impact, resulting in lower growth performance, breast and lean muscle weight, bone mineral density, and bone mineral content, while breast muscle gene expression levels (4EBP1 & BCKDK only) were increased during d 7 to 21 of age.

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

Starch-to lipid ratio, dig-AAAs, and AME interactions were studied in broilers under heat stress. Male BWG during finisher was optimized at 4:1 **starch-to-lipid ratio**, 1.01% **dig lysine**, and 3,089 kcal/kg. It also shows high AAs density may be beneficial during heat stress.

University of Saskatchewan (Canada) / [Link](#)

The interaction of increasing **Val and Ile** simultaneously with various **Leu levels** was studied in broilers. No interactions were found between these two factors on growth performance, but the main effects show high Val and Ile reduced FCR and body fat. Various interactions were shown on serum glucose, lipid profiles, and liver function markers.

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

A meta-analysis of taxonomic studies of the **poultry microbiota** identified core chicken microbiome includes *Lactobacillus*, *Faecalibacterium*, *Butryicoccus*, *Eisenbergiella*, *Subdoligranulum*, *Oscillibacter*, *Clostridium* and *Blautia*. GIT site, geographical location, breed, and age of birds, regardless of dietary factors, affect their presence.

Queen's University (UK) / [Link](#)

Layers

In various breeds of layer pullets, supplementing **vitamin D₃ (300/1,000/3,000 IU VitD₃/kg)** did not affect performance or bone health during the rearing period (0–12 weeks). Differences were only shown between genotypes and sexes.

Federal Research Institute for Animal Health (Germany) / [Link](#)

In Single Comb White Leghorn roosters, **soybean expellers** produced from high-oil soybeans (SBE-HO) resulted in higher TMEn (3,261 vs 3,162 kcal/kg DM) and digestible AA (Asp, Glu, Pro, Val, Phe, Lys, Arg, and Trp) compared to conventional soybeans.

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

Ducks

Male Pekin ducks had heavier live body weights and hot and cold carcass weights, independent of the duck genotype (Cherry Valley and Grimaud). The Grimaud strain had higher n-3 PUFA, n-6/n-3 ratios, total cholesterol, and alpha-tocopherol in the breast and leg meat.

University of Lisbon (Portugal) / [Link](#)



Quails

Japanese quail were fed varying **calcium levels (0.45/0.60/0.75/0.90/ 1.05%)** from days 21 to 35. The authors recommend a calcium inclusion range of 0.75% to 0.87% as optimal for supporting growth performance and bone mineralization.

University of Zabol (Iran) / [Link](#)

Supplementing **tryptophan (0.01%)**, **canthaxanthin (0.005%)**, or their combination for five weeks in growing Japanese quail enhances overall growth performances while improving antioxidant capacity and immune response. However, no differences were observed in carcass characteristics or cecal content pH.

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

Review

Systematic review: The impact of dietary metabolizable energy levels on the performance of medium-sized geese

This systematic review covers 25 studies conducted from January 1, 2000, to July 1, 2024. A dose-response meta-analysis indicated that **ME levels** of 13 to 13.5 MJ/kg and 12 to 13 MJ/kg resulted in optimum performance during the brooding (0 – 4 weeks) and growing (5–10 weeks) stages, respectively.

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

Join us!



2025 Georgia Precision Poultry Farming Conference

May 6th, 2025

[Download](#) the full program and registration link.



Meet our graduates

Rafael E. Rivera

I have over **20 years of experience** in the poultry industry in various capacities from lab technician, live production, poultry processing, food safety, quality assurance, and data management. I earned my **PhD. from Dr. Harsha Thippareddi's lab**. My research focused on evaluating *Campylobacter* controls in U.S. poultry processing. The work focused on developing simulated processing plant bio maps tracking *Campylobacter* changes throughout the processing chain and tracking where can interventions be applied to get the greatest reductions to minimize exposure to consumers. I am currently in a **leadership role with the U.S. Poultry and Egg Association** and this work helps me advice the poultry industry on how to make the best use of current technology and make assessments of new resources when it becomes available.



Industry News

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

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

[USDA Announces Plans for New Rulemaking for Chicken Processing Line Speeds \(NCC\)](#)

The USDA is streamlining chicken processing rules to boost efficiency while ensuring safety, keeping U.S. producers competitive globally.

[China renews export registrations for US pork, poultry plants \(The Poultry Site\)](#)

China has renewed export registrations for over 300 U.S. pork and numerous poultry facilities, securing market access for five years, while around 400 U.S. beef plants await approval.

[Economist looking toward impacts of tariffs \(Meats + Poultry\)](#)

Economist Scott Colbert warns that new U.S. tariffs on imports from Canada, Mexico, and China could raise consumer prices, sustain inflation, and slow economic growth. While post-pandemic recovery has been driven by government spending, he cautions that this is unsustainable.

[Mycotoxin analyses find high risks, challenges in 2024 samples \(Feed strategy\)](#)

DSM-Firmenich, Selko and Alltech have published the results of their 2024 mycotoxin analyses, finding high levels of mycotoxins in many samples, causing challenges for animal feed and grain producers.



April

West Poultry Disease Conference | Calgary Canada | **7-9** | [Link](#)
 North Central Avian Disease Conferences | Minneapolis MN | **7-8** | [Link](#)
 PEAK | Minneapolis MN | **8-10** | [Link](#)
 UGA Hot Weather Workshop | Athens GA | **15-17** | [Link](#)
 Poultry Market Situation | Biloxi MS | **15-17** | [Link](#)
 Workforce Success & Engagement Conference | Destin FL | **16-18** | [Link](#)
 AFGA Nutrition Seminar | Huntsville AL | **22-24** | [Link](#)
 GPF Annual Meeting & Legacy Golf Tournament | Gainesville GA | **28** | [Link](#)
 Stakeholders Summit | Arlington VA | **30-2** | [Link](#)
 UGA Hatchery Workshop | Athens GA | **TBD** | [Link](#)

May

MSU Layer Workshop | Mississippi State MS | **1** | [Link](#)
 Precision Poultry Seminar | Virtual | **6** | [Link](#)
 Poultry Processor Workshop | Nashville TN | **13-14** | [Link](#)
 Texas Commercial Egg Clinic | Bryan TX | **15** | [Link](#)
 Poultry Health Management School | Ames IA | **20-23** | [Link](#)

June

FSPCA PCQI Training | Nashville TN | **15-17** | [Link](#)
 Avian Academy Teacher Education Program 2.0 | Athens GA | **16-18** | [Link](#)
 Financial Management Seminar | Amelia Island FL | **16-18** | [Link](#)
 Southeast Egg Industry Regional Conference | Hilton Head SC | **17-19** | [Link](#)
 Avian Academy Teacher Education Program | Athens GA | **23-25** | [Link](#)
 24th European Symposium on Poultry Nutrition | Maastricht The Netherlands | **23-26** | [Link](#)

July

Hatchery Breeder Clinic | Nashville TN | **8-9** | [Link](#)
 SC Poultry Federation Annual Conference | Charleston SC | **10-12** | [Link](#)
 Poultry Science Association Annual Meeting | Raleigh NC | **14-17** | [Link](#)
 Texas Poultry Federation Annual Convention | San Antonio TX | **17-19** | [Link](#)
 State 4-H Congress | Atlanta GA | **22-25** | [Link](#)
 Chicken Marketing Summit | Savannah GA | **28-30** | [Link](#)
 AAAP 68th Annual Meeting | Portland OR | **29-31** | [Link](#)

August

National Safety Conference for the Poultry Industry | Destin FL | **18-20** | [Link](#)
 International Seminar on Poultry Pathology and Production | Athens GA | **18-22** | [Link](#)
 Women's Leadership Conference | Destin FL | **21-22** | [Link](#)

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 | **15-18** | [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 | **24** | [Link](#)
 60th National Meeting on Poultry Health, Processing, and Live Production | Ocean City MD | **29-1** | [Link](#)

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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](#)
 International Conference on Poultry Science | Lisbon Portugal | **28-29** | [Link](#)
 PSA Professional Development Conference | TBD | **TBD** | [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 | **TBD** | [Link](#)
 Symposium on Gut Health in Production of Food Animals | TBD | **TBD** | [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](#)
 International Poultry Short Course | Athens GA | **TBD** | [Link](#)
 Animal Agriculture Sustainability Summit | Atlanta GA | **TBD**
 AFIA Feed Education Program | Atlanta GA | **TBD** | [Link](#)

February

International Conference on Poultry Science | TBD | **TBD** | [Link](#)
 Southeastern Grain & Feed Association Convention | TBD | **TBD** | [Link](#)
 NTF Annual Convection | TBD | **TBD** | [Link](#)

March

Food Safety Conferences | Hot Spring AR | **TBD** | [Link](#)
 IPWA Annual Meeting | Bangkok Thailand | **TBD** | [Link](#)
 NC Processing & Products Academy | Raleigh NC | **TBD** | [Link](#)
 VIV Asia | Bangkok Thailand | **TBD** | [Link](#)
 Purchasing and Ingredient Suppliers Conference | Orlando FL | **TBD** | [Link](#)
 Feed Mill Management Seminar | Nashville TN | **TBD** | [Link](#)
 Annual Meat Conference | Orlando FL | **TBD** | [Link](#)
 Congreso Internacional AVEM | Pachuca México | **TBD** | [Link](#)
 Deep South Poultry Conference | Tifton GA | **TBD** | [Link](#)

TBD - Upcoming

9th International Conference on Poultry Intestinal Health | Istanbul, Turkey | **April 22-24 (2026)** | [Link](#)
 Feed Industry Institute | Minneapolis MN | **June 15-18 (2026)** | [Link](#)
 World's Poultry Congress | Toronto Canada | **July 13-17 (2026)** | [Link](#)
 SIAVS | Sao Paulo Brazil | **August 4-6 (2026)** | [Link](#)
 Latin America Poultry Congress | Ciudad de Guatemala Guatemala | **November 11-13 (2026)** | [Link](#)

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