



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

UGA POULTRY NUTRITION NEWSLETTER



Congratulations to [Allison J. T. Kawaoku](#) for winning the Certificate of Excellence at PSA Annual Meeting 2025 for his talk on copper supplementation in broilers.

This month's trivia question is: What is the function of copper? [Click here](#) to submit your answers.

July 2025

Editorial

This month, our comprehensive search captured 102 new publications in poultry nutrition from 61 journals (May 10th to June 10th, 2025, Web of Science), featuring top contributions from *Poultry Science* (16), *World's Poultry Science Journal* (7), *British Poultry Science* (6) and *Annals of Animal Science* (5). ([Download the complete list here](#))

In this issue, we handpicked 15 studies focusing on broilers (6), layers (2), and literature reviews (6). These studies span 13 research institutes across 11 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!

Dr. Chongxiao (Sean) Chen
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Broilers

In broilers, supplementation with **500 mg/kg of L-carnosine** reduces the prevalence and co-occurrence of breast muscle myopathies at 35 days while increasing muscle antioxidative capacities, with no adverse effects observed on growth performance, carcass yield, or meat quality.

Université Laval (Canada) / [Link](#)

Golden mussel meal (GMM) was incorporated at different **particle sizes (299/375/436/551 µm)** as a Ca source to replace limestone in broiler diets up to 42 days of age. Bone Ca concentration indicated that GMM had lower Ca availability. However, the lack of changes in gene expression suggested that the calcium content in GMM-based diets was within the recommended range for broilers. Moreover, growth performance, bone quality, and biochemical parameters were not affected by the Ca source.

Western Paraná State University (Brazil) / [Link](#)

Necrotic enteritis (NE) challenged broilers with **85% valine deficiency (Val:Lys = 0.62)**, resulted in lower growth performance, total tissue weight, and breast muscle weight, trigger rapamycin (mTOR) signaling pathway and BACC catabolism, than NE challenged birds, while 85% isoleucine deficiency (Ile:Lys=0.54) did not show negative effects.

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

In broilers, **cottonseed meal bioactive peptides** (15 g/kg diet) increased body weight, body weight gain, feed intake, FCR, carcass %, ileal CP and AA digestibility (Arg, His, Met) but decreased serum Lys level at d 35. Additionally, antibody titer against sheep red blood cell, serum antibodies (IGA and IGM), and RBC count were increased at d 21.

University of Mohaghegh Ardabili (Iran) / [Link](#)

Dietary **supplementation of synbiotic** (galactooligosaccharide, 500g/ton + *Enterococcus faecium*, 500g/ton) increased body weight gain in broilers at d 42, while improving jejunum villi:crypt, and lowering the ileum pH and *E. coli* (ileum and cecum) at d 27.

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

In broilers, ***Hermetia illucens* larvae (BSFL) fat** (contains 75.63% SFA, with 41.1% C12:0 lauric acid) reduced FCR compared to palm oil (PO), poultry fat (PF), and beef tallow (BT) from 1 to 35 d. It also increased IgA and IgG than soy oil (SO) and PO, also increased breast muscle C18:3 and n-3 FAs than SO. No liver or cecal microecosystem alteration was noted.

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



Layers

Dietary supplementation of **black soldier fly larvae (3% or 6%)** increased albumen height, egg yolk AA content (Thr, Ser, Tyr, Glu, umami AA / total AA %,), egg yolk saturated fatty acid (C12:0, C14:0, C22:0), and monounsaturated fatty acid content (C24:1, C14:1), while reduced yolk color, egg yolk AA content (Phe, Val, Pro, essential AA / total AA %) and egg yolk polyunsaturated fatty acid (C18:3n3) content in layers at 78 weeks.

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

In layer pullets, **intestinal inflammation** decreased AME intake ($190.47 \text{ kJ/kg BW}^{0.75}$), increased respiratory quotient, and redirected **energy partitioning** toward maintenance, resulting in a **negative energy balance**, alongside increased ATP, reduced NAD^+ , suppressed TCA cycle enzymes, enhanced glycolytic metabolites, and elevated amino acid catabolism for energy.

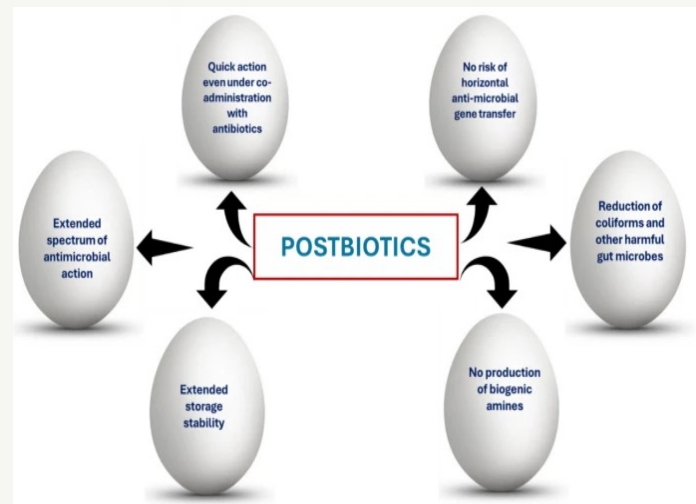
China Agricultural University (China) / [Link](#)

Reviews

Postbiotics: The Dynamic Biomolecules in Poultry Nutrition, Health, and Production

Postbiotics is defined as metabolites extracted from probiotic culture, and can include dead microbial cells, cell fragments, or beneficial substances (like enzymes, vitamins, or short-chain fatty acids). This review covers the postbiotics composition and characterization, functional roles in poultry (e.g., nutrient utilization, pathogen reduction, immune system, and gut microbiota modulation), bioactivities, effects of postbiotic supplementation on broiler growth, meat quality, egg production, gut health, and its constraints and future directions.

ICAR-Central Avian Research Institute (India) / [Link](#)

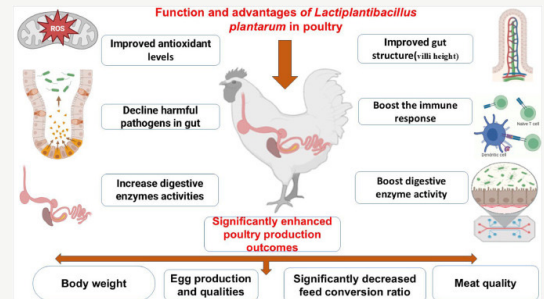




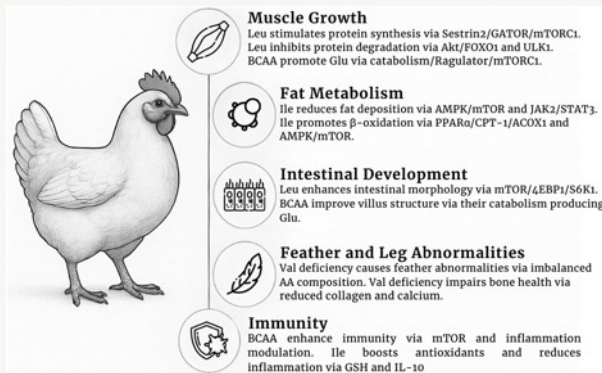
Feeding the future: A new potential nutritional impact of *Lactiplantibacillus plantarum* and its promising interventions in future for poultry industry

Lactiplantibacillus plantarum is a probiotic commonly used in poultry due to its diverse benefits on performance, meat quality, and egg quality in both broilers and layers. Additionally, it influences immune cell activity, gut health, and oxidative status. Some studies also suggest *L. plantarum* as a promising alternative to AGPs due to its antibacterial properties. This review outlines the benefits of using *L. plantarum* as a probiotic in poultry and highlights areas where further research is needed.

Kuwait Institute for Scientific Research (Kuwait) / [Link](#)



Understanding the functional roles of branched-chain amino acids and their interactions in broiler nutrition and health: a review



Branch chain amino acids (BCAAs: Valine (Val), Isoleucine (Ile), and Leucine (Leu)) play an important role in the poultry production system and growth. BCAA function is summarized in the figure. Highlights importance of refine BCAA ratio and requirements.

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

Influence of functional nutrients on poultry performance and health by reducing stress response under environmental stress

Poultry production is commonly exposed to multiple complex stressors during rearing, including environmental conditions (heat or cold), stocking density, transportation, and nutritional imbalances, which can occur individually or in combination. However, **functional supplements (such as amino acids, vitamins, and minerals)** can help mitigate these adverse effects by improving performance and reducing stress markers. This review presents practical nutritional strategies to support poultry production and health under stressful conditions.

Chungbuk National University (Republic of Korea) / [Link](#)



Impact of dietary exogenous enzymes in modifying the gastrointestinal tract, antioxidative status, immunological responsiveness, and productivity in broilers: an updated review

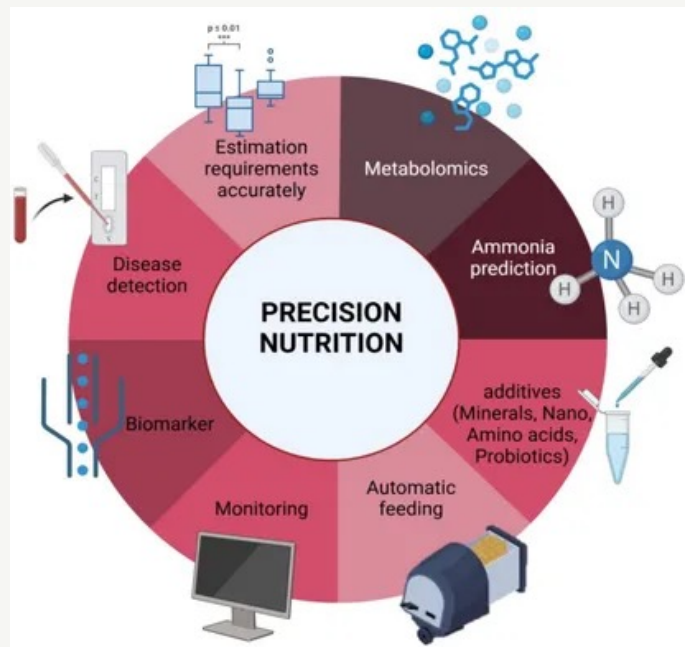
This review addresses research on the utilization of multiple **exogenous enzymes** in poultry, leading to higher efficiency and reduced feed costs through improved nutrient digestibility, intestinal immunity, physiological function, gut structural integrity, microbial balance, antioxidant capacity, and overall health, resulting in higher efficiency and lower feed costs. Effectively promotes poultry production and profitability.

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

Integrating metabolomics for precision nutrition in poultry: optimizing growth, feed efficiency, and health

Metabolomics refers to a domain of “omics” that analyzes the small-molecule elements in biological substances such as tissue, cells, and biofluids using advanced chemistry methodologies. It is particularly useful in precision poultry nutrition to improve feeding strategies tailored to chickens’ dynamic nutrient needs and reduce nitrogen excretion and carbon footprint. This review aims to highlight the metabolomics techniques, its incorporation in poultry nutritional requirements, the effect of various dietary interventions on poultry metabolome, and applications of metabolomics in gut health, antioxidant status, immune function, meat quality, and welfare assessment.

Misr University for Science and Technology (Egypt) / [Link](#)





Trivia

Response to our previous trivia

Chicken bone development is an evolutionary adaptation for flight and egg production. Key differences include lighter bones (especially in the wings), faster calcification, higher calcium metabolism, and the presence of medullary bone—a temporary calcium reservoir for eggshell formation.

Despite these unique features, much of our knowledge of avian bone physiology is based on human studies.

More research focused specifically on chickens is needed. Although poultry bones lack market value, they are crucial for meat yield, reducing processing damage, supporting egg production, and ensuring animal welfare.



Industry News

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

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

[USDA to relocate most DC staff to five regional hubs \(The Poultry Site\)](#)

The USDA will move over half its D.C. staff to five regional hubs to cut costs and be closer to farmers, sparking concerns over weakened services.

[Rabobank: geopolitics and bird flu to shape the 2025 poultry outlook \(Poultry Times\)](#)

Rabobank predicts slower poultry growth in 2025 due to bird flu outbreaks and geopolitical tensions, including trade disruptions from Brazil's first major bird flu case.

[Global animal production to grow 14% in the next decade \(Poultry World\)](#)

Global animal production is projected to grow 14% by 2034, driven by rising demand in middle-income countries.

[Pilgrim's to invest \\$400 million in Georgia prepared foods facility \(Meat + Poultry\)](#)

Pilgrim's will invest \$400 million in a new prepared foods plant in LaFayette, Georgia, creating over 630 jobs. The facility will produce fully cooked chicken products, with construction scheduled to begin in fall 2025.



August

Simpósio ACAV | Florianópolis Brazil | [5-7](#) | [Link](#)
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 | [15-17](#) | [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 | [24](#) | [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](#)
Food Safety Conferences | TBD | [TBD](#) | [Link](#)
NC Processing & Products Academy | 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](#)

TBD - Upcoming

SIASVS | Sao Paulo Brazil | [August 4-6 \(2026\)](#) | [Link](#)
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](#)

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