



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

UGA POULTRY NUTRITION NEWSLETTER



Don't miss our **International Poultry Short Course** from **Jan 21st to 24th, 2025**, right before IPPE. This unique program covers practical topics from farm to table: **management, hatchery, processing, nutrition, health, and more**—ideal for all experience levels. Learn from expert professors and professionals while networking with attendees from around the globe. [Click here](#) to learn more.

December 2024

Editorial

This month, our comprehensive search captured 142 new publications in poultry nutrition (from Oct 15th to Nov 10th, 2024, Web of Science), featuring top contributing journals from *Poultry Science* (26), *Animals* (13), *Journal of Applied Poultry Research* (11), *Journal of Animal Science* (6), and *Italian Journal of Animal Science* (4). The complete list and search strategies are attached ([Download](#)). In this issue, we handpicked 15 studies focusing on broilers (7), layers (2), turkey (1), mycotoxins (1), feed manufacturing (1), and 3 literature reviews. These studies span 12 research institutes across 9 countries.

As this year comes to a close, we want to express our heartfelt gratitude for your continued support and engagement. Wishing you a joyful holiday season and a successful new year ahead!



Enjoy the reading and Happy Holidays to you all!

Dr. Chongxiao (Sean) Chen
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Broilers

In broilers, supplementation of **pumpkin oil** (PKO) improved performance, immunity (IgA, IgG, and C3), antioxidant activity, digestive enzymes (lipase, amylase, protease), and reduced pathogenic bacteria in ceca. The optimal dosage for performance was recommended at 1–2 ml/kg.

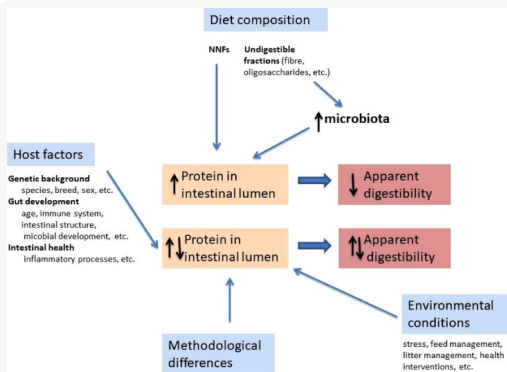
Zagazig University (Egypt) / [Link](#)

In the broilers exposed to chronic heat stress, **probiotic supplementation (*Bacillus*, *Lactobacillus*, or combination)** improved growth performance, carcass yield, and gut morphology. These effects were more pronounced with *Lactobacillus* and combination.

Shiraz University (Iran) / [Link](#)

To control coccidiosis in broilers, **vaccination** showed the best potential with higher body weight gain during the recovery phase (29–42d) and reduced oocyst shedding. **Monensin** only reduced the oocyst shedding. However, **probiotic, symbiotic, and phytochemicals** did affect coccidiosis.

Tarbiat Modares University (Iran) / [Link](#)



In broilers, **protein-free diets (PF)** reduced ileal *Lactobacillus* spp. and increased *Enterobacteriaceae*, while affecting ileal AA flow more than **casein-based diets**. The study suggested that PF might not be suitable for understanding endogenous AAs.

Estación experimental del Zaidiín (Spain) / [Link](#)

In broilers, **crude protein (CP) reduction** in two different grain-based diets (maize or broken rice) showed a different response. The interaction showed low protein has better CP digestibility in both maize and rice-based diets, with the low CP in corn diet showing the highest CP digestibility. The main effects showed maize diet had better performance and CP digestibility, and lower CP diets reduced the performance.

Sindh Agriculture University (Pakistan) / [Link](#)

In broilers, high **amino acid density** (+ 6.0%) at standard **metabolizable energy** (ME) or reduced ME diets (–50 to –150 kcal/kg) showed higher body weight, weight gain, and FCR at d 42. A reduction in ME or an increase in AA density (+3.0% or 6.0%) alone increased the feed intake. dLys (mg):ME (1000 kcal) ratios of 474, 407, and 363 were optimal for starter, grower, and finisher FCR, respectively.

The University of Sydney (Australia) / [Link](#)



In broilers, increased **glycine supplementation by up to 1.6%** improved FCR, liver health (reduce AST and ALT), and intestinal morphology during d 25 to 42 under heat stress conditions.

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

Layers

In layer hens (29 to 42 wks), **split feeding** (SF, morning: high AMEn/low Ca; afternoon: low AMEn and CP/high Ca) reduced nutrient intake, improved FCR, and did not affect egg production or quality. Meanwhile, reducing 2% protein in SF also improved egg production, but reduced egg weight.

Khulna Agricultural University (Bangladesh) / [Link](#)

The layer hens (56–60 wks) with **fatty liver** showed altered hepatic bile acid profiles, increased serum TG, LDL-C, and ALT activity, and higher ileal permeability, contributing to worse FCR and lower albumen height and Haugh unit.

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

Turkeys

In turkeys, additional supplementation of **L-isoleucine** (Ile:Lys 0.92) and **L-Valine** (Val:Lys 0.94) in **high Leucine** diets (Leu:Lys 1.60) restored the live bird performance and improved apparent ileal amino acid digestibility at d 21.

West Virginia University (USA) / [Link](#)

Mycotoxins

A meta-analysis revealed that **Deoxynivalenol** (DON) negatively impacts broilers by reducing feed intake and weight gain, FCR, and decreasing serum immunoglobulins and antioxidant activity. Additionally, it alters intestinal morphology, particularly in the duodenum, jejunum, and ileum.

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

Feed Manufacturing

Hygienically processed feed (conditioned at 85°C for 15s, retained in a hygienizer at 82.2°C for 42s) improved pellet quality and did not impact phytase activity or performance of turkey poults (0–28d) compared to standard processed feed (76.7°C for 15s).

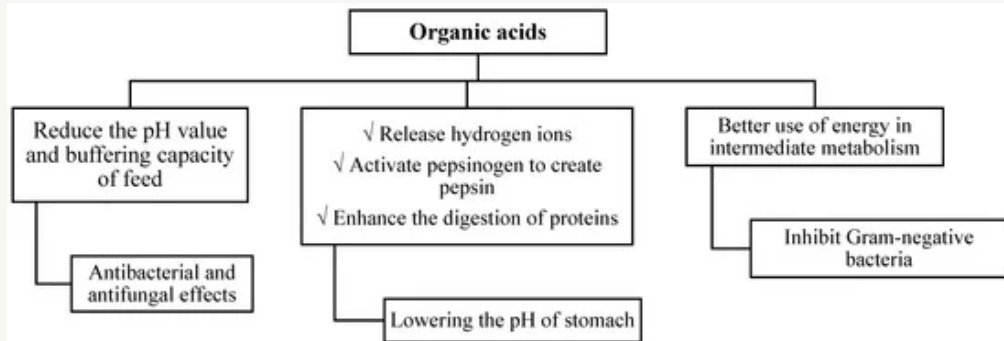
Pennsylvania State University (USA) / [Link](#)

Reviews

Applications of organic acids in poultry production: an updated and comprehensive review

Organic acids have multiple uses within poultry, including improvement of intestinal health, increased growth performance, immunomodulation and as antimicrobials. This review covers the use of organic acids in poultry production and the potential impacts use of organic acids can have on bird health, carcass traits, intestinal morphology, microbiota and immunity.

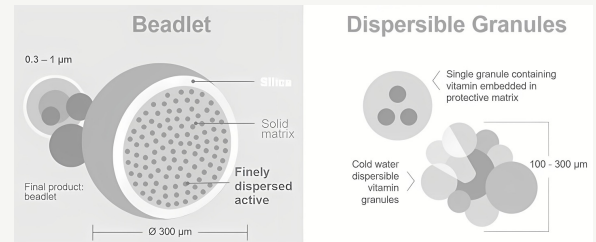
Cairo University (Egypt) / [Link](#)



Vitamin A source variability: a mini review on stability and bioavailability in poultry

Vitamin A plays a role in metabolism, immunity, eye health, tissue development, and antioxidant enzyme activity. However, its stability and bioavailability in feed formulation should be considered as it can degrade by light, moisture, heat, oxygen, and pH. This review briefly introduces vitamin A's functions and stability measurement approaches and highlights the importance of stability and bioavailability while using vitamin A in poultry production.

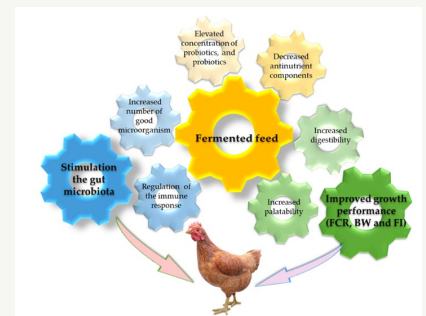
BASF SE (Germany) / [Link](#)



Structure of a beadlet and dispersible spray-dried formulation containing vitamin A acetate.

Fermented Feed in Broiler Diets Reduces the Antinutritional Factors, Improves Productive Performances and Modulates Gut Microbiome—A Review

The fermentation process **reduces anti-nutritional factors** (e.g., tannins, phytates), and breaks down lipids, carbohydrates, and proteins into simpler units, enhancing bioavailability and nutrient utilization. Probiotics (mainly lactic acid bacteria) in fermented feed support immune and antioxidant functions, promote beneficial microbiota and **improve gut health and growth performance**. Fermentation also enhances **feed safety** by inhibiting pathogenic bacteria growth.



University of Agronomic Sciences and Veterinary Medicine of Bucharest (Romania) / [Link](#)



Meet our Graduates

Mohammad Pilevar

I worked as a nutritionist on a pullet and laying hen farm before my journey at UGA. **Recently, I earned my Ph.D. from Dr. Oluyinka Olukosi's lab.** My research showed that organic zinc has higher relative bioavailability than inorganic zinc, improving growth, bone health, immunity, and nutrient utilization in broiler chickens. **My short-term career goal is to deepen my expertise in animal nutrition and contribute to developing innovative feed additives for the poultry industry.** Over the next few years, I aim to take on leadership roles to help address various industry challenges. The most joyful moment of my work is discovering new scientific breakthroughs that pave the way for future research projects in my field.



Industry News

November. 2024 Business Update (Poultry World)

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

Avian influenza invades 5 more US poultry flocks (WATT Poultry)

The latest cases involve California ducks and turkeys, turkeys in South Dakota, and layers in Iowa.

Brazil's chicken meat, pork production to hit records in 2025 (The Poultry Site)

Brazil's chicken meat production is set to reach up to 15.3 million metric tons in 2025, growing as much as 2.7% on a yearly basis, while exports would hit up to 5.4 million tons, a 1.9% rise.

US agriculture secretary – Trump nominates Brooke Rollins (Poultry World)

Trump has nominated Brooke Rollins as agriculture secretary. If approved by the Senate, Rollins, who is chairman of a conservative think tank, would succeed Tom Vilsack.

Cover photo


In our November edition, we we shared some ingredient's photos with different particle sizes and product forms. This is what we selected:

- A. The thirteen vitamins that can be included in a premix;
- B. Two different product forms of tribasic copper;
- C. Eight different particle sizes of iron sulphate;
- D. Four choline chloride 60% presentations.

It is very important to rely on a trusted premix supplier, as manufacturing a premix is not just mixing powders. There is science and technology behind the selection of each ingredient.



2025 - January

International Poultry Short Course | Athens GA | **21-24** | [Link](#) 
NPFDA Annual Convention and Showcase | Atlanta GA | **27-30** | [Link](#)
International Production and Processing Expo | Atlanta GA | **28-30** | [Link](#)
Animal Agriculture Sustainability Summit | Atlanta GA | **28**
AFIA Feed Education Program | Atlanta GA | **29** | [Link](#)

February

International Conference on Poultry Science | Lisbon Portugal | **3-4** | [Link](#)
Southeastern Grain and Feed Association Convention | Savannah GA | **19-21** | [Link](#)
NTF Annual Convection | Scottsdale AZ | **19-22** | [Link](#)


March

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



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](#) 
Workforce Success and Engagement Conference | Destin FL | **16-18** | [Link](#)
AFGA Nutriron Seminar | Huntsville AL | **22-24** | [Link](#)
Stakeholders Summit | Arlington VA | **30-2** | [Link](#)
UGA Hatchery Workshop | Athens GA | **TBD** | [Link](#) 
GPF Annual Meeting and Legacy Golf Tournament | TBD | **TBD** | [Link](#) 

May

Precision Poultry Seminar | Virtual | **6** | [Link](#) 
Poultry Processor Workshop | Nashville TN | **13-14** | [Link](#)
Texas Commercial Egg Clinic | Bryan TX | **16** | [Link](#)
Poultry Health Management School | Ames IA | **19-22** | [Link](#)

June

FSMA 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](#)
Poultry Science Association Annual Meeting | Raleigh NC | **14-17** | [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](#)

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

August

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



September

Liquid Feed Symposium | Fort Worth TX | **9-11** | [Link](#)
Shell Egg Academy | TBD | **9-11** | [Link](#)
California Poultry Federation Annual Conference | Monterey CA | **11-12** | [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](#) 
NTF Leadership Conference | Washington D.C. | **TBD** | [Link](#)
Poultry Sustainability and Welfare Summit | TBD | **TBD** | [Link](#)
60th National Meeting on Poultry Health, Processing, and Live Production | TBD | **TBD** | [Link](#)
International Avian Influenza and One Health Emerging Issues Summit | TBD | **TBD** | [Link](#)

October

GA National Fair | Perry GA | **2-12** | [Link](#)
XXIIrd 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 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](#)
Poultry Symposium for Production & Processing | TBD | **TBD** | [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 | St Louis MO | **TBD** | [Link](#)
PS Open House (Pre-professional) | Athens 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](#)
Food Animal Innovation Summit | Raleigh NC | **TBD** | [Link](#)
Live Production, Welfare & Biosecurity Seminar | TBD | **TBD** | [Link](#)

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