



## Department of Poultry Science

*College of Agricultural & Environmental Sciences*

**UNIVERSITY OF GEORGIA**



## Poultry Events

**2024**

<b>Jan</b> <b>23-26</b>	<b>International Poultry Short Course</b> Athens, GA	<b>RSVP</b>
<b>Jan, 29</b> - <b>Feb 1</b>	<b>ISPF and IPPE</b> Athens, GA	<b>RSVP</b>
<b>Jan</b> <b>30</b>	<b>AFIA Feed Education Program</b> Atlanta, GA	<b>RSVP</b>
<b>Jan</b>		<b>RSVP</b>

**31**      **Feed Your ESG: How Feed Will Help Hit Sustainability Targets**  
Atlanta, GA

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**Feb**  
**21-24**      **NTF Annual Convention**  
Austin, TX      **RSVP**

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**Mar**  
**3-7**      **Purchasing and Ingredient Suppliers Conference**  
Orlando, FL      **RSVP**

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**Mar**  
**5-7**      **Food Safety Conference**  
Hot Spring, AR      **RSVP**

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**Mar**  
**18-20**      **Annual Meat Conference**  
Nashville, TN      **RSVP**

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**Mar**  
**26**      **UGA Alumni & Friends Reception**  
Tifton, GA      **RSVP**

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**Mar**  
**27**      **Deep South Poultry Conference**  
Tifton, GA      **RSVP**

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## Poultry News

### [October Business Update: What's new in the world of poultry? \(Poultry World\)](#)

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

### [New Standards for Organic Livestock and Poultry Production \(USDA\)](#)

- OLPS improves uniformity with regard to animal welfare practice requirements for organic livestock and poultry, promoting their well-being and natural behaviors

[\*\*It's a milder year, but some areas are showing uptick in bird flu cases \(Poultry Times\)\*\*](#)

- The U.S. poultry industry has had a calmer year since the large-scale outbreaks seen in 2022, but that trend is changing somewhat, with some states seeing an increase in cases.

[\*\*Poultry to comprise 40% global meat production in 2023 \(WATT Poultry\)\*\*](#)

- Poultry meat is the most produced meat, with more than 142 million metric tons in 2023.

[\*\*Jennie-O breaks Guinness record for most turkeys donated in 24 hours \(Poultry Times\)\*\*](#)

- Jennie-O donated 15,000 whole turkeys on Nov. 13's World Kindness Day. Separately, Jennie-O is donating more than 5,000 turkeys to additional charities in the U.S., totaling more than 20,000 turkeys donated this Thanksgiving season.

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## UGA Poultry Research Highlight



**Dr. Guoming Li** is an assistant professor at the Department of Poultry Science and an affiliated professor at the Institute for Artificial Intelligence and Institute for Integrative Precision Agriculture. His research interests include developing and applying state-of-the-art technologies and modeling to improve modern poultry production and welfare, including computer vision, RFID,

Intrigued by Dr. Li's work?

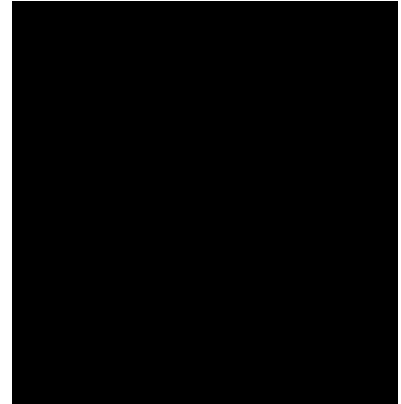
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accelerometer, thermography, sound recognition, and artificial intelligence. One of his most recent research focuses on using edge computing devices (e.g., smartphones) to identify poultry diseases and assist in precision management. The developed edge computing technique embedded with lightweight convolutional neural networks can identify healthy birds or birds infected with *Coccidiosis*, *Newcastle Disease*, and *Salmonella* within one second, with over 90% accuracy.



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2023 NOVEMBER

In this issue, you will read research summaries from  
11 Broilers studies  
1 Layer study, 1 Quail study  
3 Literature review  
from 14 research institutes in 9 countries



# POULTRY NUTRITION RESEARCH SUMMARY

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# Nutribins LLC

# LATEST NUTRITION RESEARCH AT A GLANCE

## POULTRY

In broilers subjected to cycling heat stress, supplementing **N-acetyl-L-cysteine** (NAC) at 500, 1000, and 2000 mg/kg improved feed efficiency, with 2000 mg/kg showing the highest BW and BW gain. 2000 mg/kg NAC improved overall BW gain FCR without impacting tissue glutathione.

*Ghent University / [Link](#)*

In broilers, **extruding food waste blended with soybean meal** provided suitable energy and amino acids in diets. Collection times of food waste affects apparent ileal digestibility of amino acids and nitrogen-corrected apparent metabolizable energy of food waste products.

*Kansas State University / [Link](#)*



In broilers, feeding diets diluted with 1.5% **insoluble fiber with high hydration capacity** (lignocellulose, fine-ground straw, or coarse-ground straw) reduced FI and BW gain while increasing digestive organs relative weight than feeding insoluble fiber with low-hydration capacity (almond shell). The addition of insoluble fiber reduced the moisture content of excreta in general.

*Universidad Politécnica de Madrid / [Link](#)*

In broilers, **amino acid digestibility** in soybean meal and canola meal depends on age and protein source throughout the entire growth cycle. Inconsistent patterns of age effects were observed for digestibility of amino acids, however, digestibility coefficient of total amino acids seemed to peak at D35 regardless of protein source.

*Massey University / [Link](#)*

In broilers, adding 9% **dried date** (*Phoenix dactylifera* L.) meal in the diets increased BW gain, carcass quality, nutrient digestibility, fecal *Lactobacillus* level, and cost-benefit ratio while reducing visceral organs and *E.coli* level in feces. No effect was observed on feed intake and FCR.

*University of Bari Aldo Moro, Italy / [Link](#)*

In broilers, including 1% **herbal mixture (fenugreek, garlic, and coriander)** in diets increased the weight gain, apparent total digestibility of nutrients (crude protein, crude fat, and nitrogen-free extract), and improved FCR while reducing the serum triglycerides, total cholesterol, LDL and HDL.

*Government College University, Pakistan / [Link](#)*

In broilers, replacing soybean meal with **maggot larvae meal** at 70-100% did not affect growth performance, nutrient digestibility, dressing percentage, and health parameters.

*University of Agriculture, Pakistan / [Link](#)*



# POULTRY

# LATEST NUTRITION RESEARCH AT A GLANCE

In broilers, adding **yogurt acid whey powder** up to 100g/kg in the diets did not impact growth performance, breast meat quality traits (except yellowness) and total tract apparent digestibility of nutrients. Inclusion of yogurt acid whey powder at 25g/kg in diets extended meat shelf life with the highest oxidative stability of breast meat.

*Agricultural University of Athens /[Link](#)*

In broilers, supplementing different levels of **phytase** (1000, 2000, and 3000 FTU/kg) to low available phosphorus diets (0.35 and 0.20%) improved performance and reduced the cost per kg weight gain.

*University of Agriculture , Pakistan /[Link](#)*

In broilers under continuous heat stress, supplementing **nano-methionine** (10ml/L) through water improved growth performances, antioxidant capacity, intestinal morphology, and histological liver structure while reducing abdominal fat content.

*Alexandria University /[Link](#)*

In laying hens, feeding **stevia extract** improved production performance, increased immune indexes and antioxidant capacity, and modulated intestinal microbial populations. Feeding 200 mg/kg stevia extract was recommended as an effective level.

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

A meta-analysis comparing the **biological efficiency of DL-Met and L-Met** in young chickens was performed. Both sources positively affected young birds' average daily gain and feed efficiency. However, an equivalence of the relative biological efficiency of DL-Met in comparison with L-Met could not be confirmed.

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

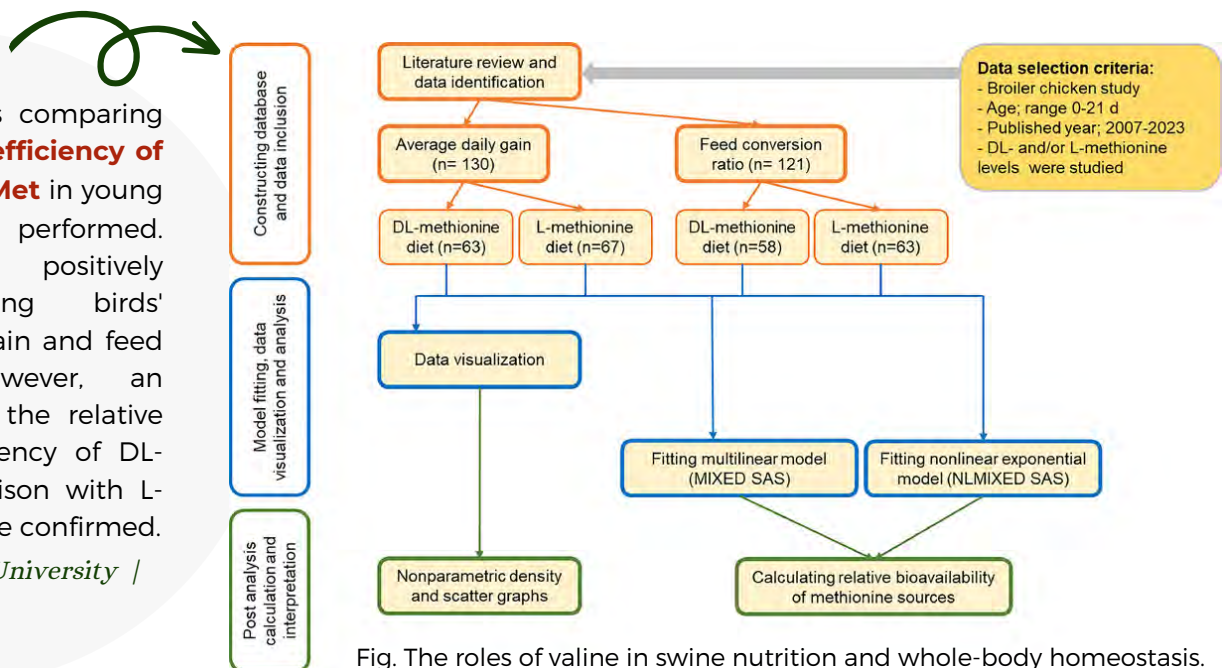


Fig. The roles of valine in swine nutrition and whole-body homeostasis.

In broiler quails, feeding **methanolic extract of citrus peeling** (citrus sinensis) from 0.5 to 1.5 ml/kg improved weight gain, FCR, dressing %, lymphoid organs weight, antibody titer, AME, dry matter, and CP digestibility while reducing feed intake.

*King Saud University /[Link](#)*

## Review #1

### The Efficacy of Yeast Supplementation on Monogastric Animal Performance

**Yeast** are single-cell eukaryotic microorganisms that work as probiotics and belong to the kingdom of fungi that show benefits in performance, immune system, and gut microbiome balance. This review walks through the different types of yeast products and their functional characteristics and spotlights their application in monogastric animal nutrition. However, multiple factors are involved in their effectiveness.

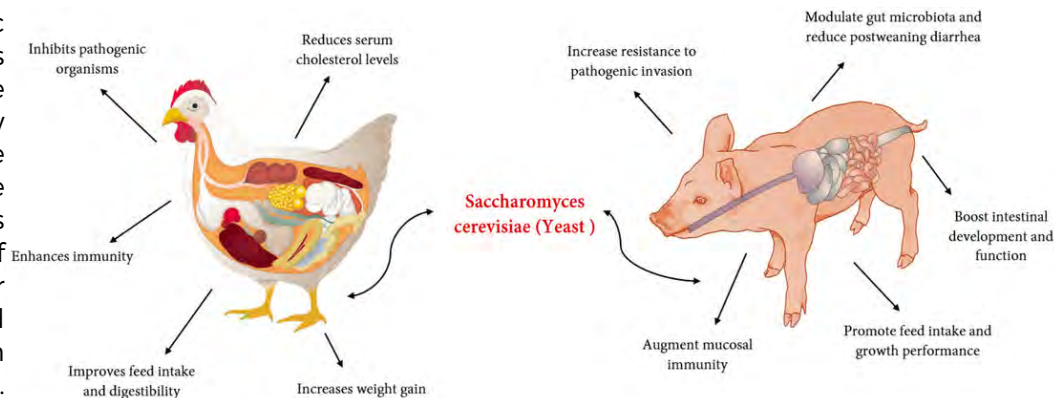


Fig. Beneficial effect of yeast supplementation on nutritional performance

Dankook University | [Link](#)

## Review#2

### Early nutrition as a tool to improve the productive performance of broiler chickens

This review focuses on the impacts of **early nutrition** of embryos and DO-7 old birds on adult broiler performance. Providing essential nutrients to embryos or newly hatched chicks has been shown to improve gut health, immune modulation, and the microbiome. This review summarizes the uses of pre-starter diets as well as in ovo feeding strategies in early and late-stage incubation.

National Research Centre | [Link](#)

## Review #3

### Use of phytochemicals to control the Mycotoxicosis in poultry

Using **phytochemicals** to limit the exposure of mycotoxins and their adverse health effects on poultry has been one of the new approaches. The metabolites formed by plants are a promising substitute because plants produce a huge variety of compounds, either as a part of their growth or in response to stress or pathogen attack. This review discussed the potential of plant-derived products or phytochemicals for controlling fungal growth in food commodities.

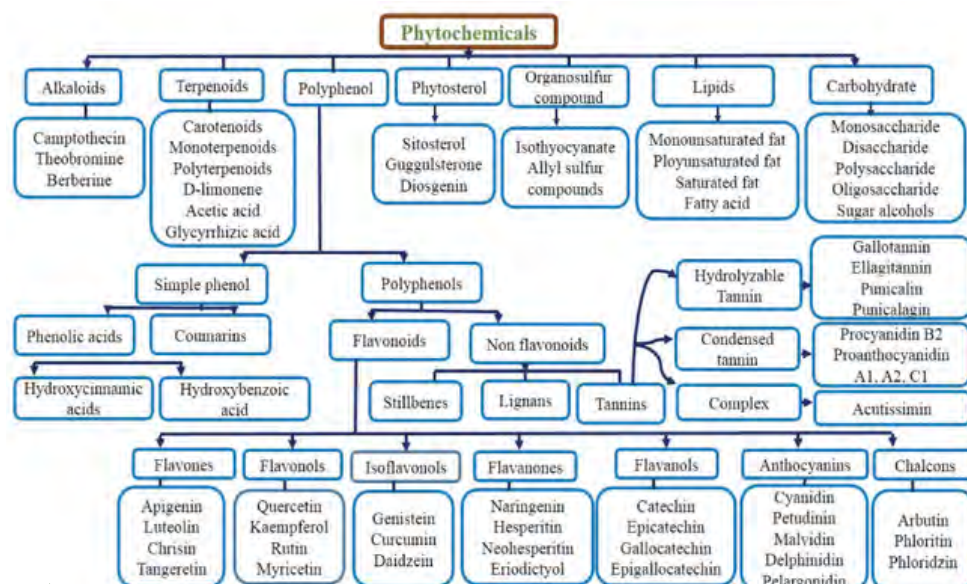


Fig. An overview of phytochemicals.

University of Agriculture, Pakistan | [Link](#)