



**INTEGRAL  
UNIVERSITY**

LUCKNOW - INDIA



VALUE-ADDED COURSE  
ON

**Augmenting the Livestock & Poultry Performance through Nutritional Management**

AGV-02-2425

ORGANIZED BY  
DEPARTMENT OF AGRICULTURE  
INTEGRAL INSTITUTE OF AGRICULTURAL SCIENCE & TECHNOLOGY (IIAST)  
INTEGRAL UNIVERSITY, LUCKNOW

**26<sup>th</sup> SEP - 10<sup>th</sup> OCT, 2024**

*Dear All,*

*We are pleased to announce that the Department of Agriculture (IIAST), Integral University, Lucknow is going to offer a Value-Added Course (VAC) on “**Augmenting the Livestock & Poultry Performance through Nutritional Management**” from 26<sup>th</sup> September, 2024 for the students of all courses.*

## **Introduction to the Course:**

The livestock and poultry industries are vital pillars of the global agricultural sector, playing a key role in ensuring food security, economic stability, and rural development. In 2021, global milk production, consisting of approximately 81% cow milk, 15% buffalo milk, and 4% from goat, sheep, and camel combined, grew by 1.1%, reaching around 884 million tonnes. India leads as the world's largest milk producer, contributing 23% of the total global milk production, with a production of 230.58 million tonnes in 2022-23, marking a 3.83% increase compared to the previous year (2021-22). The daily average milk yield per animal is 8.55 kg for exotic/crossbred cattle and 3.44 kg for indigenous/non-descript cattle. Milk production from exotic/crossbred cattle grew by 3.75%, while indigenous/non-descript cattle saw a 2.63% rise. Buffalo milk production also increased by 3.69% from the previous year. India contributes about 7% of global egg production, 2.42% of global meat production, and 7.56% of global fish production and has the world's largest population of milch animals (FAOSTAT, 2023; Economic Survey, 2023).

India's organized commercial poultry sector produces nearly 75% of the total meat and egg output, while the unorganized sector accounts for 25%. According to the 20th Livestock Census by the Government of India, the total poultry population stands at 851.81 million (including 317.07 million backyard poultry), marking a 45.8% increase from previous censuses. In 2022-23, India's total egg production is estimated at 138.38 billion, with 118.16 billion from commercial poultry and 20.20 billion from backyard poultry. Total meat production in 2022-23 is estimated at 9.77 million metric tonnes (MMT), with poultry meat accounting for 4.995 MMT, or 51.13%. India ranks third globally in egg production and fifth in chicken production, according to the Government of India.

However, maximizing the performance and productivity of these animals requires an in-depth understanding of their nutritional needs and the application of advanced nutritional management strategies. This 15-day value-added course, "**Augmenting the Livestock & Poultry Performance through Nutritional Management,**" is designed to equip participants with the knowledge and skills needed to enhance the health, growth, and productivity of livestock and poultry through effective nutritional practices.

## **Objectives**

- ❖ To provide a comprehensive understanding of the nutritional requirements of various livestock and poultry species.
- ❖ To train participants in the formulation of balanced diets tailored to specific stages of animal growth and production.
- ❖ To explore the impact of nutrition on animal health, reproduction, and productivity.
- ❖ To highlight the role of feed additives, supplements, and alternative feed resources in enhancing animal performance.
- ❖ To develop skills in monitoring and assessing the effectiveness of nutritional management strategies in livestock and poultry farming.

## Learning Outcomes

By the end of this course, participants will be able to:

1. Identify the specific nutritional requirements for different species of livestock and poultry across various stages of development.
2. Design and formulate nutritionally balanced diets that optimize growth, health, production and reproduction in livestock and poultry.
3. Apply advanced nutritional management techniques to improve feed conversion ratio and animal performance.
4. Evaluate the effectiveness of various feed additives and supplements in promoting animal health and their productivity.
5. Analyse the role of nutrition in disease prevention and overall animal well-being.
6. Implement sustainable nutritional strategies that enhance the profitability of livestock and poultry farming.
7. Utilize alternative feed resources to reduce feed costs while maintaining optimal animal performance.
8. Assess the impact of nutritional interventions on animal reproduction and productivity outcomes.

This course is designed for professionals, students, and enthusiasts in animal science, veterinary medicine, and agricultural disciplines who aim to deepen their expertise in livestock and poultry nutritional management.

<b>Course Platform</b>	: ILI (Integral Learning Initiative: A Collaborative Blended Learning Platform)/Google Meet
<b>Course Duration</b>	: 30+ Hrs. (2 hours per Day excluding Quiz)
<b>Course Start Date</b>	: 26 <sup>th</sup> September, 2024
<b>Course End Date</b>	: 10 <sup>th</sup> October, 2024
<b>Registration Date</b>	: 21 <sup>st</sup> September, 2024
<b>Target Participants</b>	: All Courses

## OUTLINE OF VALUE ADD COURSE

### Module 1

(6+1 hrs.)

Overview of livestock and poultry nutrition. Importance of feed/ fodder and their utilization. Roughage sources- green and dry roughage. Energy and protein sources- conventional and unconventional feed sources. Preparation of concentrate feed, hydroponic fodder production and silage making.

#### Quiz Test

### Module 2

(6+1 hrs.)

Introduction to cattle feeding, feeding management in dairy cow, management of nutritional diseases, mitigation strategies to reduce methane production. Ration balancing for sustainable dairy farming.

#### Quiz Test

### Module 3

(6+1 hrs.)

Integrated pasture management systems for sheep and goats. Ration formulation for sheep and goats. Feeding management of sheep and goats in various life stages. Specialized feeding technique to produce designer meat & milk.

### Quiz Test

## Module 4

(6+1 hrs.)

Nutrient specifications and ration formulation for chicken. Feeding management of broiler, layer and breeder chicken. Designer eggs and meat through nutrient manipulation. Feeding management of native chicken, ducks, quails and turkeys. Feed additives and supplements for poultry.

### Quiz Test

## Module 5

(6+1 hrs.)

Feed Sampling and Processing for Analysis. Nutritional Quality Check of Raw Materials and Finished Feeds. Feed Toxins, their analysis and interpretation. Feed Analysis, current concepts, and developments. Near Infra-Red Spectroscopy – A Tool for Quick Feed Analysis.

### Quiz Test

Total duration of course

30+ Hours

## TEAM VAC, DEPARTMENT OF AGRICULTURE

Dr. Pankaj Kumar Gupta

Module 1

Dr. Zeeshan Ahmed Khan

Module 2

Dr. Pankaj Kumar Gupta

Module 3

Dr. Zeeshan Ahmed Khan

Module 4

Dr. Pankaj Kumar Gupta

Module 5

**\* Timing's : Everyday, 5:00 PM Onwards**



## CONVENER

**Prof. SABA SIDDIQUI**

HEAD

DEPARTMENT OF AGRICULTURE (IIAST)  
INTEGRAL UNIVERSITY, LUCKNOW

\*E-certificate will be issued to participants having 75% attendance and 50% marks in Quiz & Assignment

\*Joining link will be shared on the registered email id one day before the commencement of the course

## COURSE COORDINATOR

**Dr. Pankaj Kumar Gupta,**

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Phone No. 9131436393

Email: [kazeeshan@iul.ac.in](mailto:kazeeshan@iul.ac.in)

## MODE ONLINE

Registration Form Link : <https://forms.gle/aX9hMJM4Vzr2tuALA>



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