₹150
www.indianpoultryreview.com

INDIAN POULTRY REVIEW

THE MAGAZINE OF INDIAN POULTRY INDUSTRY | JUNE 2026

COVER

THE SOYBEAN MEAL CRUNCH

ARTICLE

When the Earth Speaks, Can Livestock and Fish Afford to Stay Silent?

Shalimar Group

TOTAL®

Every piece, a Masterpiece!

Freshly cut.
Super tender.
So juicy.

totalfoods.in

TOTAL FOOD MART | instamart | bigbasket | spencer's | more | blinkit | zepto | MINUTES

TOTAL FOODMART

Baghajatin 9038283222 | Baguihati 8961661555 | Behala 8981111555 | Chetla 8981661888 | Dhakuria 8420073333 | Dumdum 7605034444 | Garia 9163393575 | Golpark 7596046728 | Hazra 8981083111 | Howrah 9748615555 | Hiland Park 9230997121 | Jodhpur Park 9163666728 | Kasba 7605082941 | Kamalgazi 6292291266 | Lake Gardens 8961269999 | Narendrapur 7605072748 | Netaji Nagar 9163666595 | New Town 9147137609 | New Town (Pecha More) 9163777027 | Paikpara 9147137606 | Patuli 8961681444 | Salt Lake 8961761777 | Tollygunge 7596046729 | Upohar 7605004961

TOTAL DAILY CHICKEN

Airport 9147755160 | Alam Bazar 6292338569 | Ballygunge 9748652222 | Bansdroni 9147704430 | Bediapara 9147739182 | Deshapriya Park 8584830405 | Dum Dum Park 9147137612 | Gorabazar 6292291265 | Haridevpur 8420009264 | Hind Motor 6292338570 | Kalindi 8811078810 | Konnagar 7890010591 | Kudghat 9163666915 | Purba Sinthee 91472223958 | Pal Bazar 7605030896 | Rishra 7890010592 | Serampore 7890010590 | Satgachi 9147704393 | Shivani Market 6292338571 | Sodepur 8420146711

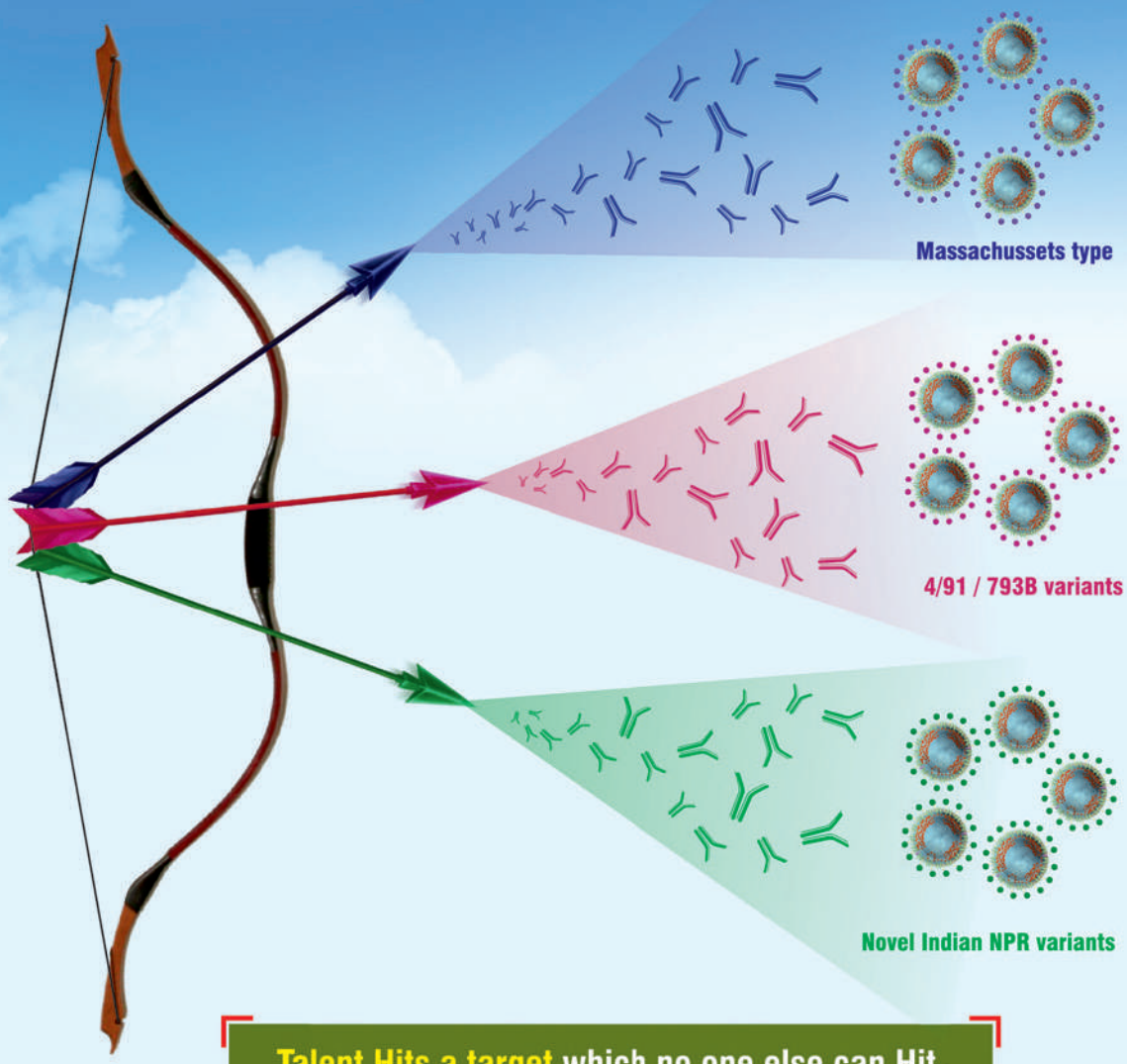
VHBRO-MN

AVIAN INFECTIOUS BRONCHITIS VACCINE, INACTIVATED

(Massachusetts And Novel Indian Nephropathic Strains)

Venworld®
THE BEST IN ANIMAL HEALTHCARE

Perfect Vaccine Candidates Catching a Moving Target



Talent Hits a target which no one else can Hit,
Genius hits a target no one else can see

VENTRI BIOLOGICALS
(Vaccine Division of VHPL)

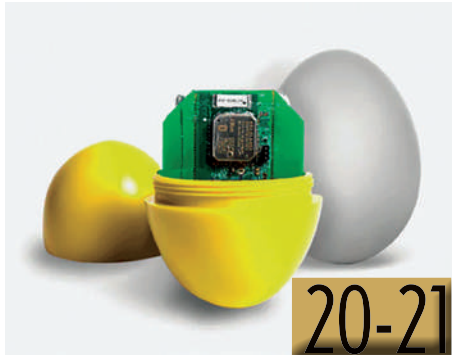
'Venkateshwara House', S. No. 114/A/2, Pune Sinhagad Road, Pune 411030. **Tel.:** +91 (020) 24251803, **Fax:** +91-20-24251060 / 24251077.

Email: ventri.biologicals@venkys.com **www.venkys.com**

CONTENTS

INDIAN POULTRY REVIEW
www.indianpoultryreview.com
THE MAGAZINE OF INDIAN POULTRY INDUSTRY

Volume 60 | Issue 11 | June 2026



MANAGING EDITOR : G. N. Ghosh
ASSOCIATE EDITORS : Shelley Ghosh | G. G. Narayana

ADVERTISEMENT SALES OFFICE - KOLKATA
57-B, Townshend Road, Kolkata-700 025
Phone: +91 98310 24002
E-mail: sanjoy@indianpoultryreview.com
Designed by Hushframe Ideas Pvt. Ltd.

Edited and Published by G.N. Ghosh from 57-B, Townshend Road, Kolkata-700025 and printed by G.N. Ghosh at Salmoli Publication, 57-B, Townshend Road, Kolkata - 700025

BAADER

Complete Poultry
Processing Solutions

Scale Your Business to Grow

BAADER is a leading global provider of complete poultry processing solutions, tailored to your capacity and processing needs.

Whether you require small-scale solutions or high-speed processing factories, we collaborate with you to design a production flow that aligns with your present and future requirements, empowering your business growth.

Scan the QR code
and discover how BAADER solutions can transform your production.

BAADER Food Systems Denmark A/S / +45 8623 1455
bfs-dk@baader.com / www.baader.com/poultry

INDIA'S STAND ON THE GLOBAL LIVESTOCK FEED CRISIS

G. N. Ghosh
Managing Editor

The global livestock feed crisis has emerged as one of the defining challenges for animal agriculture in the post-pandemic era. Geopolitical conflicts, climate-induced crop failures, disrupted supply chains and volatile commodity markets have sharply increased the prices of maize, soybean meal and other key feed ingredients. Across continents, livestock producers are grappling with escalating costs and shrinking profitability.

India's response to this crisis has been both pragmatic and instructive. Unlike many feed-importing nations, India has sought to strengthen domestic resilience through a combination of policy interventions, industry innovation and scientific research. The country has increasingly recognised that feed security is inseparable from food security and that a rapidly growing poultry and livestock sector cannot remain vulnerable to global commodity shocks.

The Indian industry is now actively exploring alternative feed ingredients, including DDGS, rice-based co-products, millet residues, insect protein and fermented feed solutions. Simultaneously, nutritionists are advocating precision feeding and enzyme technologies to improve feed efficiency and reduce dependence on conventional protein sources. The emphasis has shifted from merely procuring ingredients to optimising nutrient utilisation.

Yet, the crisis also presents an opportunity. India can position itself as a global leader in sustainable feed innovation by investing in oilseed productivity, climate-resilient crops and circular bioeconomy models that convert agricultural by-products into valuable feed resources.

The lesson from the current crisis is clear: resilience lies not in dependence but in diversification. India's stand must move, therefore, beyond intent to decisive action. Governments should prioritise investments in feed crop productivity, incentivise alternative feed development and strengthen supply-chain resilience; industry must accelerate adoption of novel ingredients and resource-efficient technologies; and researchers should intensify efforts in feed innovation, precision nutrition and circular bioeconomy solutions. Only through a coordinated national mission to achieve feed self-reliance and innovation can India build a future-ready feed ecosystem that safeguards farmer livelihoods, strengthens nutritional security and emerges as a global model for sustainable livestock production.

Utilisation of Dietary Components: Metabolic Fate of Feed Ingredients in Chicken

Suma N*, Gorakh Mal, Birbal Singh, Rinku Sharma, Uma Shankar Pati, Devi Gopinath, Gauri Jairath, Ajayta Rialch, Kavya N K, Navyashree G and R Ranjeet Sharma

ICAR – Indian Veterinary Research Institute, Regional Station, Palampur, Kangra District, Himachal Pradesh – 176 061
**Corresponding author: Dr. Suma, N., Senior Scientist.*
Email: sumavet@gmail.com

Introduction

The digestion in poultry refers to the rapid and highly efficient process by which birds break down feed into absorbable nutrients and eliminate waste. Because birds lack teeth and have a high metabolic rate, their digestive system is uniquely structured.
The sequence of digestion process is as follows:

1. Ingestion

- Beak: Since birds have no teeth, no chewing occurs in the mouth. Feed is picked up and swallowed whole
- Saliva: Saliva acts as a lubricant and contains enzymes (like amylase) to start the breakdown of starches, though the food stays in the mouth for a very short time

2. Storage and Softening (Crop)

- Food travels down the oesophagus to the crop, a specialised storage pouch
- Here, the food is moistened and softened by water and salivary secretions. Very little actual digestion happens here; it is primarily a "holding tank" that allows the bird to eat quickly and digest later

3. Chemical Digestion (Proventriculus)

- The proventriculus is known as the "true stomach" (glandular stomach)
- Hydrochloric acid (HCl) and digestive enzymes (like pepsin) are secreted here and mixed with the food. However, because the food passes through very quickly, the actual breakdown begins more significantly in the next organ

4. Mechanical Digestion (Gizzard)

- The gizzard is a thick, muscular organ
- This is where the "chewing" happens. The muscular walls grind the feed against swallowed stones or grit (acting like teeth). This physical pulverising increases the surface area of the food so enzymes can work more effectively

5. Nutrient Breakdown and Absorption (Small Intestine)

The small intestine is the primary site of the "fate" of nutrients.

- **Duodenum:** Receives enzymes from the pancreas (to break down proteins, fats, and carbs) and bile from the liver (to emulsify fats)
- **Jejunum and Ileum:** This is where the absorption happens. Nutrients (amino acids, glucose, fatty acids) pass through the intestinal wall into the bloodstream to be used for growth or egg production

6. Fermentation (Caeca)

- At the junction of the small and large intestines are two blind pouches called caeca.
- Bacteria here break down remaining coarse fibre through fermentation. The caeca also help in the absorption of remaining water and some B vitamins

7. Water Reclamation (Large Intestine)

- The large intestine is relatively short in poultry
- Its main job is to absorb water and electrolytes, drying out the undigested waste before it is expelled

8. Excretion (Cloaca)

- Cloaca is the common chamber where the digestive, urinary, and reproductive tracts meet
- In birds, urine (uric acid) and faeces are mixed together here. This combined waste is then voided through the cloaca

Importance of Metabolisable Energy (ME) in Poultry

Estimation of energy in poultry feeds and excreta (faeces and urine combined) is critical for formulating balanced diets, reducing costs, and minimising environmental impact. Poultry feed energy values are typically determined using the Metabolisable Energy (ME) system, which is the standard unit of measurement because birds excrete feces and urine together.

Methods used to Estimate Energy in Poultry Feeds and Faecal Matter:

I. Direct Measurement: Bomb Calorimetry

The gold standard for determining the Gross Energy (GE) of any organic material (feed or excreta) is the use of an adiabatic bomb calorimeter.

- **Principle:** A known mass of the sample is burned in a high-pressure oxygen atmosphere inside a sealed vessel (the bomb). The heat released is measured by the temperature rise in the surrounding water jacket
- **Sample Preparation:**
  - Drying: Samples (especially excreta) must be dried at low temperatures (usually 60°C) to prevent the loss of volatile compounds
  - Grinding: Samples are ground to a uniform particle size (usually 0.5–1.0 mm)
  - Pelleting: The powder is often pressed into a pellet to ensure uniform combustion
- The result is expressed in kilocalories (kcal) or megajoules (MJ) per kilogram

II. Biological Evaluation (In Vivo Bioassays)

Since not all Gross Energy in feed is available to the bird, we must conduct trials with live birds to determine the energy lost in excreta.

Apparent Metabolisable Energy (AME)

This is the most common measure in the poultry industry. It accounts for the energy lost in faeces and urine.

Metabolisable Energy represents the energy available for physiological processes within the bird. The digestibility and metabolisable energy (ME) value of poultry feed are not fixed; they are influenced by several biological, dietary, and environmental

variables. However, from a practical feed-formulation standpoint, ME is highly effective because:

1. It is straightforward to measure and determine in poultry
2. The ME content of a specific ingredient remains unaffected by other components in the diet
3. ME values stay relatively stable across different ages, breeds, and production stages

Energy partitioning - specifically the ratio of energy utilised versus excreted - is influenced by the feed's nutritional profile, the bird's biological characteristics (species, genetics, and age), and external environmental factors.

Determination of Metabolisable Energy by In Vivo Methods

Metabolisable Energy (ME) is calculated by monitoring feed intake and excreta output during a trial lasting three to five days.

There are two methods to determine ME.

A. Indicator / marker method
B. Total collection of excreta method

Indicator method: To determine Apparent ME, researchers frequently employ an indigestible marker, such as chromic oxide (Cr_2O_3), within the diet. A significant advantage of this indicator method is that it eliminates the need for total excreta collection; instead, only a small, representative sample is needed for analysis.

Total collection of excreta method: The total collection method will be adopted to study nutrient metabolisability and the retention of calcium and phosphorus. This technique avoids the tedious process of marker determination; however, it relies on the meticulous measurement of both feed consumption and total excreta voided. Researchers must employ specific protocols for the complete recovery of excreta when dealing with either caged poultry or those raised on deep litter. Collect droppings on plastic sheets or in metal containers placed under the cage. It is essential to ensure that the collected samples are free from impurities such as feed, feathers, or egg debris.

Cage System: During the final phase of the trial, a metabolic study (3–5 days) will be carried out on representative birds or on all the birds from each treatment. Excreta from individual cages will be combined over a three-day period and oven-dried at 60°C. To achieve a homogenous sample for subsequent analysis, the dried material will be processed through a grinder and passed through a 40-mesh sieve.

Deep litter system: Birds will be randomly selected from the deep litter pens and transferred to specialised metabolism cages. These cages facilitate the easy recovery of waste from each bird and provide individual access to feed and water. During the experimental period, all replicates will receive their specific diets and water ad libitum.

Dry Matter Metabolisability

The group wise dry matter metabolisability (DMM) of diets is determined using the following formula.

$$\text{DMM (\%)} = \frac{\text{Weight of the dry feed consumed (g) - Weight of the dry excreta voided (g)}}{\text{Weight of dry feed consumed(g)}} \times 100$$

Similarly, the metabolisability of Organic Matter (OM) and the nutrients, Crude Protein (CP) and Ether Extract (EE) are also determined using the formula given below.

$$\text{Metabolisability coefficient of nutrient (\%)} = \frac{\text{Unit nutrient intake - Unit nutrient outgo}}{\text{Unit nutrient intake}} \times 100$$

Calcium and Phosphorus Retention

The calcium and phosphorus contents of feed and fecal samples are estimated using procedures described by Pathak et al. (1996).

Calcium and phosphorus retentions are worked out using the following formulae.

$$\text{Calcium retention (\%)} = \frac{\text{Calcium intake (g)} - \text{Calcium out go (g)}}{\text{Calcium intake (g)}} \times 100$$

$$\text{Phosphorus retention (\%)} = \frac{\text{Phosphorus intake (g)} - \text{Phosphorus out go (g)}}{\text{Phosphorus intake (g)}} \times 100$$

Gross Efficiency of Protein and Metabolisable Energy Utilisation

The gross efficiency of converting dietary protein and metabolisable energy to those of eggs under all treatments and during different periods will be calculated based on intake and transfer of the said nutrients.

Protein Utilisation

Gross efficiency of protein utilisation (EPU) can be calculated as follows:

$$\text{EPU (\%)} = \frac{\text{Total egg mass produced x 0.12}}{\text{Total dietary protein intake}} \times 100$$

where, 0.12 represents the unit of protein present in one unit of egg.

Energy utilisation

Gross efficiency of energy utilisation (EEU) has been calculated as:

$$\text{EEU (\%)} = \frac{\text{Total egg mass produced x 1.6}}{\text{Total dietary ME intake}} \times 100$$

Where, 1.6 represents the amount of Kcal per every gram of egg mass as described by Reddy (1979).

III. Near-Infrared Spectroscopy (NIRS)

NIRS is the fastest modern method for large-scale estimation.

- Light in the near-infrared spectrum hits a feed or excreta sample. The reflected light creates a spectrum based on the chemical bonds (C-H, O-H, N-H) in the sample
- The NIRS machine compares the spectrum against a database of thousands of samples previously analysed via bomb calorimetry
- Results are given in seconds; no chemicals needed. But accuracy depends entirely on the quality of the calibration database

Venworld
THE BEST IN ANIMAL HEALTHCARE

EGGXTRA®

5 % Commercial Layer Composite Premix

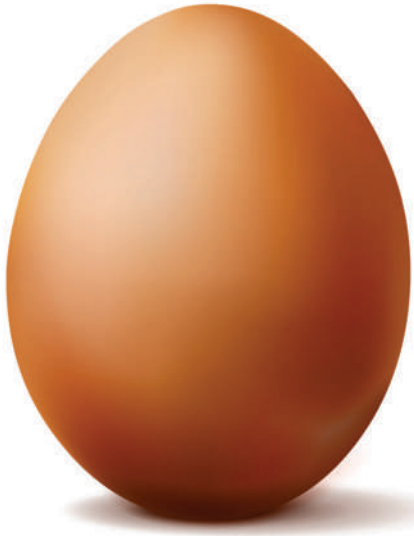
GET BALANCED NUTRITION IN EASY WAY

VENKATESHWARA B.V. BIOCORP

VENKATESHWARA B.V. BIOCORP PRIVATE LIMITED

Venkateshwara House', S. No. 114/A/2, Pune-Sinhagad Road, Pune-411030
Tel.: (020) 24251803, Fax: +91-20-24251060/24251077, Website: www.venkateshwarabvbiocorp.com

Ganga
Best Quality Symbol GROUP



IDEAL EGGS:-

Clean, Free of cracks,
correct shape,
within acceptable
weight range...

Better Uniformity (No runts/stunts)

GANGA HATCHERIES

We deal in only 430Y hatching eggs

Our Hatching eggs are free from vertically transmissible diseases like the Fowl Typhoid, Mycoplasmosis, Reo, Adeno, CAV etc.

Ganga
Best Quality Symbol GROUP

Corporate Office:
Village Bhalsi,
Near Ganga Filling Station (NAYARA)
Panipat 132113, Haryana (India)
Mob.: +91-94160-00350
E-mail: gangahatcheries@gmail.com
Web: www.gangagroup.org.in

Vencobb

WHAT IF ONE

ACTIVATION TECHNOLOGY

COULD CHANGE EVERYTHING?

NOT ALL MOS ARE **FUNCTIONAL**

CURIOUS TO KNOW THE **DIFFERENCE?**

EXPLORE THE SCIENCE BEHIND **FUNCTIONAL IMMUNE RESPONSE**

POWERED WITH NANO TECHNOLOGY

ACTYMUEN™

ACTIVATED TO PERFORM

STAY TUNED

NANOVET NUTRITION

NANOVET NUTRITION PRIVATE LIMITED

2nd Floor, 32, 1/1, Main Rd, Kempapura Hebbal, Bengaluru, Karnataka 560024

+91 8123693961 | info@nanovet.co.in

www. nanovetnutrition.com

Article

Mitigating Current Crisis of Synthetic Methionine Availability for Poultry Feed: Alternates & Strategies

Dr. Partha Pratim Das
Associate General Manager – Nutrition
Dr. Satyam Sharma
Product Manager – Intestinal Health
Kemin Industries South Asia Pvt. Ltd.

Current Situation

Geopolitical uncertainty and persistent global supply-chain disruptions are redefining risk across the poultry feed industry. One of the clearest signals of this shift is the growing instability surrounding synthetic methionine—a critical input that underpins modern poultry nutrition. What was once managed as a routine procurement variable has now emerged as a strategic vulnerability, marked by constrained availability and escalating price pressure. For feed manufacturers across India and neighbouring regions, the challenge extends beyond cost inflation, demanding a fundamental rethink of sourcing strategies, formulation flexibility, and long-term nutritional resilience. The situation has triggered severe price inflation, with prices rising sharply over a very short period due to scarcity of DL Methionine, the 1st-limiting amino acid in broiler diets.

Moreover, the requirement for petroleum-based by-products in the manufacture of Methionine for poultry diet supplementation may remain a limitation over an extended period and may impose a greater economic burden on poultry feed producers in the future.

The Challenge Ahead

The role of Methionine is multifaceted, including protein synthesis and muscle growth, feather development, systemic methylation process, immune and antioxidant support in poultry. Feed Formulators face an urgent need to formulate the least cost diets that can temporarily reduce reliance on the synthetic DL Methionine supply chain.

Mitigating the Methionine Crisis: Strategic Options for the Feed Industry

A combination of the following outlined strategies could be beneficial in finding the right and balanced approach to taking actions to solve this rapidly evolving situation.

1. Precision amino acid formulations- Moving entirely away from total amino acid-based formulations to strict standard ileal digestibility (SID) based formulations, maintaining optimised amino acid ratios. This can result in an overall reduction in Crude Protein requirements without compromising performance. (*Emmert & Baker, 1997*)
2. Taking into account a few non/semi essential amino acids- In considerably low protein diets, apart from all essential amino acids, some of the non-essential amino acids like Serine, Glycine and Glutamine can become conditionally essential because birds lack the nitrogen pool to synthesise them (*Bortoluzzi, C. et. al., 2020*)
3. Considering Branched Chain Amino Acids (BCAA) & ratios- Need to consider all three BCAA's, i.e., Leucine, Isoleucine & Valine, with proper ratios to Lysine for a more balanced formulation since many times, these amino acids are overlooked (*Bortoluzzi, C. et al., 2020*)
4. Sparing effect via methyl donors- Methionine acts as a major methyl group donor in liver metabolism. Providing alternative, highly bioavailable methyl donors like Betaine & Choline Chloride at relatively higher inclusions allows the bird to reserve dietary methionine exclusively for muscle & protein synthesis. (*Fu, Q. et al., 2016*).
5. Alternative Methionine analogues & fermentation products- Transition towards liquid analogues or organic production of L-Methionine via microbial fermentation can partially reduce the burden of petrochemical based DL- Methionine product. (*Yao, J. H. et al., 2006*).
6. Macro ingredient Reformulation- Shifting the bulk ingredient profile away from standard Corn Soya matrices to an ideal proportion of an extensive array of alternate raw materials (protein-rich ingredients) possessing a higher Digestible Methionine & Methionine to Lysine ratio can reduce the dependency on synthetic Methionine (*NRC Nutrient Requirements of Poultry, 1994*)
7. Enzymatic extraction from superior enzymes- Utilising superior exogenous enzyme solutions (MultiProtease & MultiNSPase) to break down complex feed matrices & anti-nutritional factors will facilitate higher liberation of previously indigestible Methionine vis-à-vis other amino acids & nutrients from conventional & alternate ingredients. Higher though sensible matrix application from Enzymes will also save feed cost without impairing performance. (*Cowieson & Roos, 2016*)
8. Gut health management (Mucin sparing & Gut Inflammation Control)- Intestinal lining (mucin) is heavily composed of sulphur-containing amino acids. By reducing mucin turnover, the bird retains its endogenous Methionine and makes more of it available for muscle accretion. However, another aspect of Methionine and gut health is the mitigation of gut inflammation, as the use of higher alternative raw materials tends to induce chronic gut inflammation, which can result in losses of up to 0.27g of ideal protein per bird per day. (*Moore, R. J. 2023, Sandberg, F. B. et. al., 2007*).

9. Supplementation of B Vitamins- Increasing levels of Vit B-12 & Folic acid helps to recycle molecules of Methionine more efficiently, as these are essential cofactors for the Methionine cycle (*Froese, D. S. et al., 2019*)

Ways to Supplement Methionine- How to Solve?

1. Execute a safety margin of Dig AA's- Apart from maintaining optimised ratios of Dig AA's, may reduce the Dig M+C to Lysine ratio by 2-3 % in Finisher phases where the impact of AA's is less sensitive than in early phases (*Emmert & Baker 1997*)

2. Consider ideal proportions of conditionally essential AA's-
   a. In low CP broiler diets, Serine, Glycine & Glutamine may become conditionally essential & limiting AA's
   b. For Dig Gly+Ser to Dig Lys, ratio recommended is 135-150% & shouldn't be below 127% (*Ospina-Rojas et al., 2012*)
   c. Dig Glutamic acid to Lysine range should be around 269 -306 (*Selle, P. H., et al., 2023*)

3. Branched Chain AA's & Leucine to Lysine ratio
   a. For a better balanced diet with significant cost optimisation, correct ratios of BCAA's to Lysine are critical. Also, the Dig Leu to Dig Lys ratio should be around 108 to 126% ideally (*Selle, P. H., et al., 2023*)
   b. High level of Leucine leads to lowering of digestibility & availability of Valine & Isoleucine & there is reduced feed intake & growth (*Kriseldi, R. et. al., 2022*)

4. Effective application of Betaine & Choline Chloride
   a. Syn Methionine can be partially replaced by Betaine, around 15-20% (*Fu, Q. et al., 2016*).
   b. e.g., suppose 800g of Betaine can substitute 300-400g of Syn Methionine
   c. During summer, Betaine can be included even up to 1-1.5kg/MT of feed to facilitate Methyl donor activity, osmoregulation, strengthen intestinal health & improve carcass quality
   d. Methyl donor efficacy of Choline Chloride is almost half that of Betaine & dosage can be adjusted accordingly

5. Strategy with liquid analogues that can replace DL Methionine depending on availability (As per practical considerations)
   a. Methionine Hydroxy Analogue (MHA) has almost 70-80% efficacy that of DL- Methionine
   b. L-Methionine is claimed to have relatively higher bioefficacy (105 to 115%) than DLM, particularly in the initial stages

6. **Executing Alternative RM's shifts**
   a. Commonly used Alt Ingredients like MBM, MGL, Rice DDGS, Poultry Meal, MDOC that are high in Dig Methionine at ideal inclusion levels "can jointly substitute around 1-1.1kg Synthetic Methionine" (Individual RM contribution is provided in Table 1.). These inclusions are based on Industry practices across India, provided the RM's quality is fair to good
   b. Practical Recommendations for alternate raw materials
   - Mustard Oil Cake (MOC): Widely available across the subcontinent, it shares a similarly high sulphur-amino acid profile to rapeseed. The strict limitation is its pungency (which can reduce feed intake) and higher levels of native glucosinolates compared to double-zero varieties. Requires strict monitoring and potentially iodine supplementation.
   - Practical Consideration: 305% (No inclusion in prestarter diets ideally)
   - Meat and Bone Meal (MBM): Widely used as a cost-effective source of intact protein, calcium, and phosphorus. It provides a solid baseline of sulphur-containing amino acids (methionine and cysteine) to help offset synthetic methionine needs. The primary limitations are extreme variability in raw material quality, high ash content disrupting the Ca:P ratio, and strict microbiological QA requirements (Salmonella risk).
   - Formulation constraint: 6-8% (*Leeson & Summers, 2005*)
   - Practical Consideration: 5% Maximum (Avoid putting more than one animal protein source in the same diet)
   - Corn Gluten Meal (CGM): CGM contains roughly 1.4% to 1.5% digestible methionine. The limitation is the high absolute cost. The concentration of yellow pigments (xanthophylls) can alter carcass skin colour depending on regional consumer preferences.
   - Practical Consideration: 5-6%
   - Fish Meal: A premier source of highly digestible intact protein and exceptionally rich in methionine. Limitations include high market cost, risk of biogenic amines (gizzard erosion), salt toxicity, and the potential for transferring a "fishy" taint to broiler meat if used heavily in the finisher phase.
   - Practical Recommendation: 2-3%
   - Poultry By-Product Meal (PBPM): Rendered animal proteins are naturally dense in sulphur-containing amino acids. The primary limitation is monitoring Calcium/ Phosphorus ratios to avoid mineral imbalances and monitoring consistency in QA parameters. Managing oxidative rancidity effectively is crucial.
   - Practical Recommendation: 4-5% (Avoid putting more than one animal protein source in the same diet)
   - Distillers Dried Grains with Solubles (DDGS): DDGS retains a respectable amount of natural methionine. Limitations include variability in nutrient content across ethanol plants and the risk of mycotoxin contamination.
   - Formulation constraint (Maize DDGS): 6% to 10% (*Wang, Z., et al., 2007; Abdel-Raheem, S. M., et al., 2011*).
   - Practical Recommendation: 3-4%

7. **Effective Enzyme utilisation**
   a. Good quality Multi-Protease Enzyme can be used to extrapolate max Protein degradation from Corn soya or alternative protein-rich ingredients. If RM's quality is good & substrate availability is more, a higher matrix can be considered (*Cowieson & Roos, 2016*)
   b. Considering the mid-range Matrix from Multi Protease can spare around 200-250g of Syn Meth (provided in Table 1 below)
   c. Phytase superdosing & good quality Multi NSPase helps to eliminate phytate protein binding & reduces gut viscosity, thereby improving total SID of RM's & considering a higher level of enzyme matrix. (*Cowieson, A. J. et al., 2011*)
   d. Synthetic Methionine substitution will be negligible from Phytase & NSPase; however, excess Nutrient liberation will act as a buffer for higher productivity (*Ahmad, M. et al., 2025*)

8. **Effective Gut Health Management**
   a. In this context, effective control of subclinical necrotic enteritis (SNE) becomes even more critical, as compromised gut integrity directly undermines methionine utilisation through reduced mucin turnover. Subclinical

Table 1: Showcasing Syn Methionine substitution partially from Alt Ingredients, Betaine, Choline Chloride & Multiprotease enzymes

Corn Soya Ingredients	Dig Meth %	Av Inclusion levels of Alt Ingr% (Industry std)	Syn Meth (Av Br Fin diet) in Gms	Syn Meth substitution (Gms) Br Fin
Corn (8.1%)	0.16	NA	3000	
Soya Regular (46%)	0.54			
Viable Alt Ingredients				
Rice DDGS (45%)	1.1	3		300
MBM (45%)	0.38	3		
MGM (60%)	1.26	4		300
Soya Oil cake (47%)/Hypro Soya (49.5%)	0.58	15-20		200
Poultry Meal (50%)	1.1	3		200
Mustard DOC (37%)	0.63	2		100
Kemzyme Protease (4%)		0.03		200
Betaine (Subs. As stated above)		0.12		300
Choline Chloride (Subs. As stated above)		0.12		100
Total sub of Syn Meth (Gms)				1700
Syn Meth in diet (Gms)				1300

necrotic enteritis already imposes a significant economic burden, with estimated losses of approximately 4% broiler bird (Moore, R. J., 2023). These losses are likely to be further magnified in scenarios where methionine requirements are met through increased meat and bone meal inclusion and elevated crude protein levels, both of which place additional stress on gut health. Targeted probiotic interventions offer a practical and scientifically sound approach to mitigating this risk by supporting intestinal integrity and nutrient efficiency.

b. Managing Gut Inflammation would be another crucial and important aspect, as supplementation of alternate raw materials (Fish meal, Rapeseed meal, etc.) aggravates intestinal damage and may cause gut inflammation (Cardoso Dal Pont, G. et al., 2020, TL-24-22301). Currently, chronic gut inflammation is estimated to cause a loss of about INR 2-3 per broiler bird (*Sandberg, F. B. et. al., 2007*) and measures to alternate the supplementation of Methionine in poultry birds would increase these losses and further affect microvilli growth and gut integrity. Effective gut inflammation control strategies through specific gut inflammation control options would be crucial.

9. Supplementation of B Vitamins: Can increase the Vitamins by 10-15% in the premix, as Vitamin B12 & Folic acid are essential cofactors for the methionine cycle. This allows the birds to recycle every molecule of Methionine more efficiently.

References

Abdel-Raheem, S. M., Leitgeb, R., & Iben, C. (2011). Effects of dietary inclusion level of distillers' dried grains with solubles (DDGS) from wheat and corn on amino acid digestibilities in broilers. International Journal of Poultry Science, 10 (12), 952-958.

Ahmad, M., Itani, K., Ghimire, S., Apajalahti, J., Smith, A., Steinhoff, F. S., & Svihus, B. (2025). Effect of NSPase and feeding regimen on performance, nutrient digestibility, and ileal microbiota of broiler chickens fed pelleted diets containing low- or high-viscosity barley. Animal Feed Science and Technology, 116533.

Bortoluzzi, C., Fernandes, J. I. M., Doranalli, K., & Applegate, T. J. (2020). Effects of dietary amino acids in ameliorating intestinal function during enteric challenges in broiler chickens. Animal Feed Science and Technology, 262, 114383.

Cowieson, A. J., & Roos, F. F. (2016). Toward optimal value creation through the application of exogenous mono-component protease in the diets of non-ruminants. Animal Feed Science and Technology, 221, 331-340.

Cowieson, A. J., Wilcock, P., & Bedford, M. R. (2011). Super-dosing effects of phytase in poultry and other monogastrics. World's Poultry Science Journal, 67(2), 225-236.

Dal Pont GC, Belote BL, Lee A, Bortoluzzi C, Eyng C, Sevastiyanova M, Khadem A, Santin E, Farnell YZ, Gougoulias C, and Kogut MH (2021). Novel Models for Chronic Intestinal Inflammation in Chickens: Intestinal Inflammation Pattern and Biomarkers. Front. Immunol. 12:676628. doi: 10.3389/fimmu.2021.676628.

Emmert, J. L., & Baker, D. H. (1997). Use of the ideal protein concept for precision formulation of amino acid levels in broiler diets. Journal of Applied Poultry Research, 6(4), 462-470.

Froese, D. S., Fowler, B., & Baumgartner, M. R. (2019). Vitamin B12, folate, and the methionine remethylation cycle—Biochemistry, pathways, and regulation. Journal of Inherited Metabolic Disease, 42(4), 673-685. https://doi.org/10.1002/jimd.12009.

Fu, Q., Leng, Z. X., Ding, L. R., Wang, T., Wen, C., & Zhou, Y. M. (2016). Complete replacement of supplemental DL-methionine by betaine affects meat quality and amino acid contents in broilers. Animal Feed Science and Technology, 212, 63-69.

Kemin Internal Document: TL-24-22301.

Kriseldi, R., Silva, M., Lee, J., Adhikari, R., Williams, C., &Corzo, A. (2022). Understanding the interactive effects of dietary leucine with isoleucine and valine in the modern commercial broiler. Poultry Science, 101(12), 102140.

Leeson, S. and Summers, J.D. (2005) Commercial Poultry Nutrition. 3rd Edition.

Moore, R. J. (2023). Necrotic enteritis & antibiotic-free production of broiler chickens: Challenges in testing and using alternative products. Animal Nutrition.

NRC Nutrient Requirements of Poultry, 1994.

Sandberg, F. B., Emmans, G. C., & Kyriazakis, I. (2007). The effects of pathogen challenges on the performance of naïve and immune animals: the problem of prediction. Animal, 1(1), 67-86.

Selle, P. H., Macelline, S. P., Chrystal, P. V., & Liu, S. Y. (2023). A reappraisal of amino acids in broiler chicken nutrition. World's Poultry Science Journal, 79(3), 429-447.

Wang, Z., Cerrate, S., Coto, C., Yan, F., & Waldroup, P. W. (2007). Use of constant or increasing levels of distillers dried grains with solubles (DDGS) in broiler diets. International Journal of Poultry Science, 6(7), 501-507.

Yao, J. H., Li, S. Q., Zhong, L. L., Huang, S. X., Zhang, W. J., & Xi, H. B. (2006). The relative effectiveness of liquid methionine hydroxy analogue compared to DL-methionine in broilers. Asian-australasian journal of animal sciences, 19(7), 1026-1032.

CLOSTAT™ 365 DRY

Annual Gut Health Management Program

KEMIN
Compelled by Curiosity™

Kemin Industries South Asia Pvt. Ltd.
#C-3, 1st Street, Ambattur Industrial Estate, Chennai - 600 058, Tamil Nadu, India.
Tel: 044 - 4220 2800 | Email: mail.india@kemin.com | Web: www.kemin.com

FAMIQS

ISO 22000 FSSC 22000 FSSC 22000

meyn®

Rapid Breast Deboner
M4.1 Compact

- Plug & play approach to process 4,200 BPH
- High yield with both matured and non-matured products
- Saves up to 20 FTE per shifts

Discover what Rapid
Technology can do for you
visit meyn.com

Rapid
MASTER YOUR CRAFT

For inquiries or details, feel free to call **+91-120-6910900** or mail **meynindia@meyn.com**

ROSSARI
making you more competitive

Rossari Vitamin

Breeder Premix Solutions

ROSSVMIX

BD LS PREMIUM

- Protects against deficiency diseases
- Boosts growth and immunity
- Improves blood markers and physical appearance
- Improves the haematological parameters and blood profile
- Maintains cellular structure and supports metabolism
- Helps in recovery from injuries and stress

The company's

Manufacturing Facility at DAHEJ

in Bharuch, Gujarat, is a major hub for the production of Vitamin Premixes, Mineral Premixes, MultiEnzyme Complex, Feed Additives, and speciality Nutrition Solutions for the poultry, dairy, aquaculture, and livestock sectors. With a robust manufacturing capacity of approximately 13,000 MT per month, the facility is well-positioned to cater to the growing nutritional requirements of the animal production industry.

To ensure consistency, precision, and product quality, Rossari has invested in advanced processing technologies, including Bühler manufacturing systems, which support efficient and standardized production of premixes and feed additives.

ADVANCED MANUFACTURING

Equipped with Bühler manufacturing system for sufficient, precise and standardized production of premixes and feed additives.

STATE-OF-THE-ART QUALITY CONTROL

Modern QC laboratory ensures consistent product quality, safety and regulatory compliance.

LARGE PRODUCTION CAPACITY

Robust infrastructure with a capacity of Thirteen Thousand MT per month to serve customers across the globe.

TRUSTED NUTRITION PARTNER

Backed by science, innovation and technical support for improved health, performance and profitability.

ROSSARI BIOTECH LIMITED

(An ISO 9001:2015 & 14001:2015 & GMP Certified Company)

Rossari House, Golden Oak, LBS Marg, Surya Nagar, Opp. Mahindra Showroom, Vikhroli (West), Mumbai - 400079, Maharashtra, India.

info@rossari.com +91 22 6123 3800 www.rossari.com

Gallinase™

Innovation Elevates Food Safety

THE KEY TO SAFETY IS IN OUR HANDS - MAKE SAFETY A REALITY AND DON'T BE A FATALITY.

Early Stage & Gut Health

Growth & Development

Health & Safety

PRIORITY **PREMIUM** **PROVEN**

ABTL

info@abtl.in +91 20 2729 1020 / 21 www.abtlenzymes.com

Article

PCR-Based Diagnostic Strategies and Molecular Surveillance of *Mycoplasma Gallisepticum* and *Mycoplasma Synoviae* in the Poultry Industry

Team Huvepharma

Introduction to Avian Mycoplasmosis

Avian mycoplasmosis continues to be a major infectious challenge affecting commercial poultry farms across the world. The disease is primarily associated with Mycoplasma gallisepticum (MG) and Mycoplasma synoviae (MS), two highly adapted bacterial pathogens belonging to the class Mollicutes.

The pathogenic process begins when the organisms attach firmly to epithelial surfaces of the respiratory and reproductive tracts using specialised terminal attachment structures. MG is predominantly responsible for Chronic Respiratory Disease (CRD), while MS is strongly associated with infectious synovitis and Eggshell Apex Abnormalities (EAA). Important virulence-associated proteins include GapA, CrmA, VlhA proteins, PlpA, and Hlp3.

Epidemiological Dynamics and Economic Burden

Recent epidemiological studies indicate increasing prevalence of MS infections in Indian poultry farms. Significant economic losses arise due to poor feed efficiency, reduced egg production, low hatchability, and carcass condemnation. Transmission occurs through vertical and horizontal routes, with multi-age farming systems contributing significantly to disease persistence.

Production Area	Clinical Findings	Subclinical Impact
Broiler Production	Respiratory distress, joint swelling, lameness	Poor feed efficiency, uneven flock growth, increased carcass rejection
Layer / Breeder Operations	Reduced egg production and quality, synovitis	Inferior shell quality, decreased hatchability, vertical spread to progeny
Mixed Infections	Mortality during secondary bacterial or viral infections	Chronic airsaccullitis, fibrinous lesions, systemic inflammatory damage

Comparative Analysis of Diagnostic Methodologies

Reliable diagnosis requires laboratory confirmation using culture isolation, serological assays, conventional PCR, and real-time PCR techniques. Real-time PCR is currently preferred because of its speed, high analytical sensitivity, and capability for molecular differentiation.

Diagnostic Method	Strengths	Limitations
Culture Isolation	Confirms viable organism recovery	Slow growth, contamination risk, specialized media requirements
Serological Tests (RSA, ELISA, HI)	Useful for flock-level monitoring	Vaccine interference and cross. -reactive false positives
Conventional PCR	Rapid species-specific detection	Requires molecular laboratory infrastructure
Real-Time PCR	Highly sensitive, rapid, quantitative	Higher instrumentation costs

Genotype-Based Differentiation and DIVA Strategies

Molecular DIVA (Differentiating Infected from Vaccinated Animals) strategies facilitate differentiation between field isolates and commonly used vaccine strains such as F-strain, ts-11, and 6/85 through PCR-based genotyping and sequence analysis of variable surface protein genes.

Frontier Diagnostic Platforms: Lamp and CRISPR-Cas12a

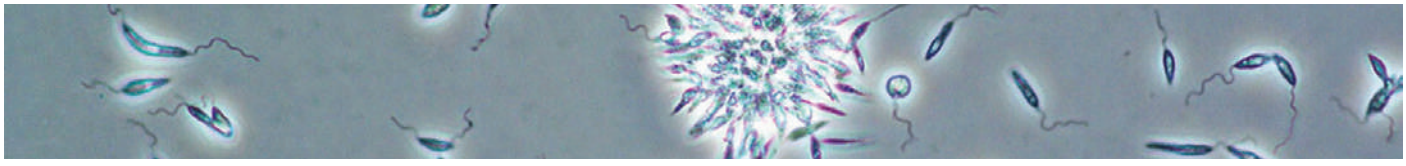
Loop-Mediated Isothermal Amplification (LAMP) enables rapid nucleic acid amplification under constant temperature conditions suitable for field diagnostics. RAA-CRISPR-Cas12a systems provide highly sensitive detection with lateral-flow visualisation and portable field applicability.

Molecular Detection of Antimicrobial Resistance (Amr)

Molecular AMR monitoring targets mutations within the 23S rRNA region and quinolone resistance-determining regions involving gyrA, parC, and parE genes. PCR-based mutation analysis offers rapid alternatives to conventional susceptibility testing.

Conclusion And Strategic Recommendations

Modern control strategies require integrated molecular surveillance, enhanced biosecurity, DIVA-based monitoring, rapid field diagnostics, and antimicrobial stewardship programs. Adoption of a One Health framework is essential for sustainable poultry disease management and food safety protection.



HUVEPHARMA®

BREAKTHROUGH PROTECTION AGAINST NEWCASTLE DISEASE!

HuveShield™ NDK

RANIKHET DISEASE VACCINE INACTIVATED
(LENTOGENIC STRAIN, LASOTA) IP

India's Most Advanced ND Killed Vaccine

- Long-Lasting Immunity
- Safety Assured
- Proven Efficacy

www.huvepharma.com

Article

Hairline Cracks in Hatching Eggs

Team Aviagen

Hatching eggs with hairline cracks pose a hidden threat, reducing the embryo's ability to hatch and increasing the risk of contamination. A normal hatching egg leaves the hen without cracks. From the moment of lay, the egg is exposed to manual or automated egg collection, sorting, packing, and movement on the breeder farm, followed by transportation to the hatchery, and in some cases, transfer from plastic or pulp trays to setter trays.

During this journey, rough egg handling may cause hairline cracks in the egg shell and possibly disrupt the underlying shell membranes. These hairline cracks may not be immediately visible to the naked eye and do not leave a trace of the exact moment of impact. Because of this, hairline cracks are often missed when doing quality checks during egg collection at the breeder farm. On arrival at the hatchery, hairline cracks that have occurred on the breeder farm are visible, but not consistently recognised, removed, and discharged. Egg quality analysis, conducted by Aviagen incubation specialists at customer hatcheries, revealed that the percentage of hairline cracks can be as high as approximately 7% for certain flocks.

This article focuses only on hairline cracks. It does not address body checked eggs that were cracked and repaired inside the hen's reproductive tract. These eggs typically have a crack covered by a layer of calcium, making the crack appear as a ridge or bang (Figure 1).

How to Find Hairline Cracks ?

Hairline cracks only become apparent after a few days when moisture from the air has had time to penetrate the crack and produce a faint grey line at the shell surface. When searching for hairline cracks in an egg pack, pick up and inspect each egg with a flashlight, as the crack may be located at the bottom or on the other side. A flashlight makes it easier to detect the moisture that has entered the crack become illuminated (Figure 1).

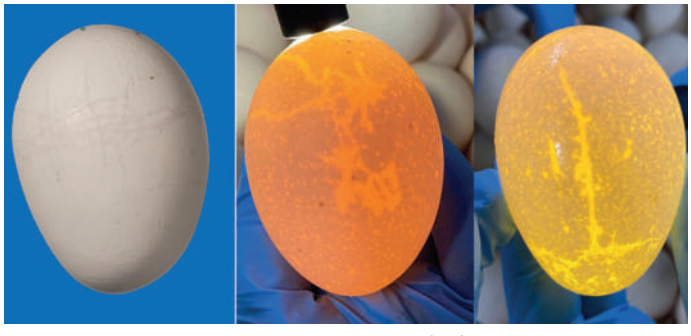


Figure 1: Examples of a body-checked egg (left) and illuminated hairline cracks (right).

How to Locate the Point or Location of Impact ?

Hairline cracks are often caused by collisions with other eggs or hard materials in the egg collection system. Whether an eggshell cracks depends on the speed of the impact and the quality of the eggshell. High impact speed (G-force) and weak shell increase the likelihood of cracks.

The location of impact can be found in several ways. A quick check can be done by using your eyes and ears to detect the sight and sound of colliding eggs before or during egg collection, and by looking for sharp edges or rough transitions. Start form the laying nest and work down the egg collection system. Another method is to collect eggs after each transition point, store them for two days, and examine them for hairline cracks using a flashlight.

However, modern technology allows us to use a more sophisticated approach. An artificial egg with G-force sensors inside can be used to track the egg's journey from laying until arrival at the hatchery. Each transition point should be checked several times, and real time data provides information on the range of impact and the corresponding time. There are several artificial eggs on the market, for example. Wireless Egg Node, Cracklessegg, Mach-sens Egg Tracker and Gregg Smart Egg (Figure 2).

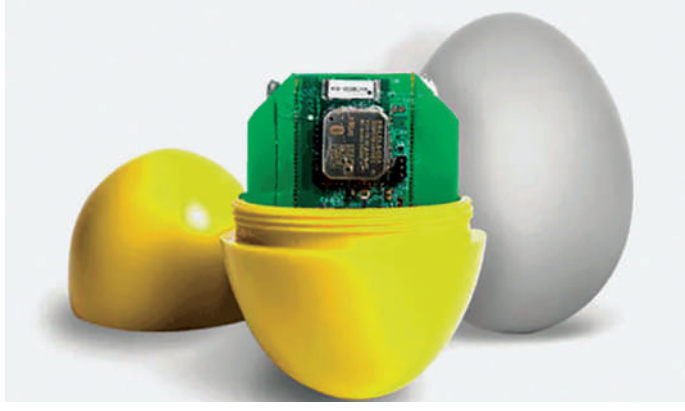


Figure 2: An artificial egg with a G-force sensor inside

Hairline Crack Prevention

Gentle egg handling

Minimise the use of harsh or overly automated equipment, and train staff and drivers on the importance of delicate egg handling.

Transport safeguards

Use shock-absorbent materials and avoid jarring motions during egg transportation from the farm to the hatchery.

Routine hatchery inspection

Candle samples from every hatch of eggs immediately upon arrival at the hatchery, and track the hairline crack trends over time.

Routine breeder management evaluation

Any condition that makes the egg shell weaker will increase the likelihood of cracks. This could be related to heat stress, nutrition, water quality, disease, or bird age.

Routine egg journey inspection at the breeder farm

Check the basics. Every nest must have a nest mat in good condition and, in the case of automation, a nest mat that is positioned correctly so that the eggs roll gently onto the belt without colliding with the nest walls or conveyor belt structures. The collection frequently should be a minimum of 4 times per day to prevent egg-to-egg collisions on the conveyor belt.

Consequences Of Hairline Cracks

Contamination risk

A cracked egg leaves the door open for bacteria to penetrate and possibility cause contamination. This risk increases when a hairline crack is caused while the egg is still in the cooling down phase, just after lay, combined with a (slightly) dirty eggshell. Egg contents shrink when cooling down form the hens body temperature to storage temperature. This shrinking process facilitates bacterial penetration through cracks, as the slight under pressure pulls anything outside the egg into the egg. Usually, the shell and inner membrane act as a natural barrier for microbes or bacterial; however, when the shell and membrane are caked and disrupted, the embryo is at risk. Egg shell cleanliness, affected by breeder house management, plays an important role in determining whether egg with a hairline crack has to face a bacterial challenge. Research shows that losses due to contamination increase by a factor 5 to 6 (Figure 3).

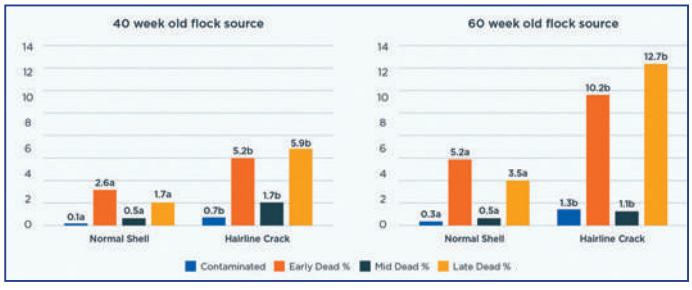


Figure 3: Hatch debris analysis (Aviagen trails 2025 and 2026). Letters show statistical differences between normal eggshells compared to shells with hairline crack

Reduced hatchability

Eggs with hairline cracks have reduced hatchability, as they are more vulnerable to contamination and dehydration. Reduction in embryo viability doubles or triples across all stages of incubation compared to a normal shell (Figure 3). Cracked eggs will lose more weight due to increased moisture loss during incubation. Egg weight loss is, therefore, higher, and this will consequently lead to a lower chick yield (Figure 4). Chick yield is, however, less affected, as late dead embryos and dehydrated cull chicks are not included in the chick yield parameter. Overall, chicks hatched form cracked eggs have a lower quality, if they manage to hatch, resulting in more culled chicks (Figure 5). However, results may differ if using in-ovo vaccination.

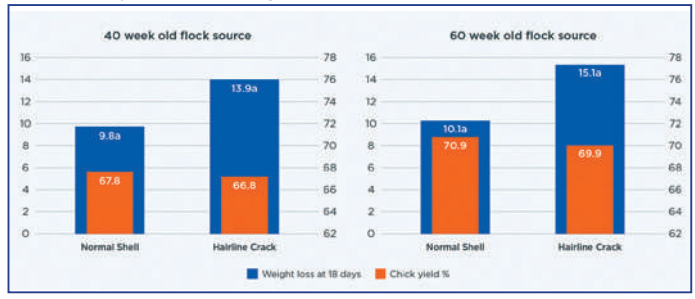


Figure 4: Weight loss and chick yield % (Aviagen trails 2025 and 2026). Letter show statistical differences for weight loss of normal eggshells compared to shells with a hairline cracks. No significant difference was seen for chick yield, as all trays were close to or within target, and incubation time was variable

The Aviagen research presented below, with an average specific gravity above 1,080 for both flock ages (Figure 5), illustrates the drop in hatchability when comparing clean, normal eggs to those with hairline cracks. Experiments conducted by other researchers, for example, Barnett et al. (2004), show significantly larger drops in hatchability, which may be related to the origin of the eggs and eggshell cleanliness.

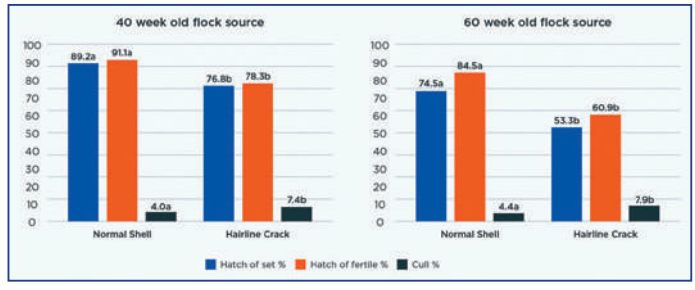


Figure 5: Hatch of set, hatch of fertile, and cull %. Hatch of set and hatch of fertile have culls removed. (Aviagen trails 2025 and 2026). Letters show statistical differences for weight loss between normal eggshells compared to shells with a hairline crack

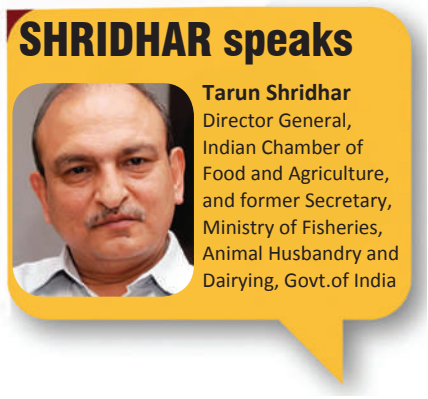
As a commercial example, an average hatchery that sets 1 million eggs per week, with 4% hairline cracks in their egg pack, loses 0.5% hatchability. Assuming that hairline cracked eggs under hatch at a rate of 12.4%, this means 5,000 chicks are lost weekly. On a yearly basis, this translates toa loss of 260,000 chicks.

Conclusion

Eggs with hairline cracks are inferior compared to eggs without hairline cracks in terms of hatchability and chick quality, and cause an economic loss. Hairline cracks are detectable and mostly visible after a few days of storage at either the breeder farm or hatchery. There are multiple ways to find the cause, and therefore, eggs with hairline cracks are an unnecessary loss that should be avoided.

Article

When the Earth Speaks, Can Livestock and Fish Afford to Stay Silent?



On June the 5th, the World Environment Day, the world pauses, even if only briefly, to take stock of what we are doing to the planet we live on. This year, the theme of the day was: "Inspired by Nature. For Climate. For Our Future." Anchored in UNEP's broader "NowForClimate" campaign, the day is a global call to acknowledge the Earth's distress signals and, crucially, to act on them.

But here is a question that does not get asked loudly enough: what does all of this mean for the farmers raising chickens in Andhra Pradesh, the fisherfolk casting nets in the Bay of Bengal, or the cattle herder in Rajasthan watching his animals grow leaner as pastures dry up? The climate conversation tends to stay afloat high in the air. Let us bring it all the way down to the shed, the pond, and the shore.

The inconvenient truth that hangs over livestock and fisheries is that these sectors are simultaneously contributors to and victims of climate change. That is a double bind that few industries face with quite the same intensity. On the contribution side, the numbers are sobering. Livestock supply chains account for approximately 7.1 gigatonnes of CO_2 equivalent per year, making up around 14.5% of all human-caused greenhouse gas (GHG) emissions globally. Cattle, raised for both beef and milk, are responsible for roughly two-thirds of that share, largely because of methane released during digestion in a process called enteric fermentation. And enteric methane alone accounts for about 30% of global methane emissions, a particularly potent warming agent in the short run.

Poultry, often cited as the greener protein, is not entirely off the hook either. The global poultry sector contributes around 8 percent of total livestock GHG emissions, or roughly 606 billion kg of CO_2 equivalent per year, with feed production alone accounting for more than half of that footprint. The average emission intensity of broiler chicken is estimated at 5.4 kg of CO_2 equivalent per kg of carcass weight. In India specifically, total GHG emissions from livestock were estimated at 281.23 million tonnes of CO_2 equivalent in 2019, a figure that is only going to climb as the sector grows. And yet, and this is the part that often gets lost in the debate, these same sectors are paying a steep price for a warming planet they did not cause alone.

Ask any poultry farmer in Telangana what summer feels like now, and the answer will involve words like "maro" (death), weight loss, and stress; it is not a metaphor, but biology. Poultry birds are sensitive to temperature, thriving best within a thermal comfort zone of 16^{0}C to 25^{0}C. Once temperatures cross 30^{0}C, the problems multiply: panting, reduced feed intake, dehydration, weakened immunity, and sharply lower egg production. Cross 36^{0}C, and birds can simply start dying.

In coastal Karnataka, veterinary officials warned as recently as March 2026 that rising summer temperatures and humidity were putting severe stress on both cattle and chickens. "Meat chickens may significantly reduce their food intake, resulting in insufficient weight gain, and may start dying when temperatures exceed 36^{0}C," said an official of the department of Animal Husbandry and Veterinary Services. It is not a distant scenario, but happening now.

India is the second largest producer of eggs and among the top five producers of broiler chicken globally. So heat stress is not just an animal welfare issue, it is business, food security, and a rural livelihood risk, all rolled into one. And it is not just poultry; across India, the majority of livestock rearers now report a climate change impact on their animals; and among buffalo keepers, the number is estimated as 54%. Milk production is affected in ways that correlate directly with heat stress, reduced fodder availability, and erratic rainfall. Studies confirm a 2.7% decline in the bovine population in coastal India between 2012 and 2019, as farmers involuntarily shift toward smaller, more heat-tolerant ruminants like goats and sheep.

If the poultry farmer's enemy is heat, the fisherman's enemies are many, rising sea temperatures, intensifying cyclones, shifting fish populations, and an ocean that is becoming less predictable by the season. The Bay of Bengal is a particularly alarming case study. Despite covering less than 1% of the global ocean, this body of water supplies nearly 8% of the world's fishery production, a fact that makes its vulnerability deeply consequential. Recent research published in Nature Geoscience warned that extreme variability in the Indian Summer Monsoon could cause a 50% drop in food available for marine life at the ocean's surface, fundamentally destabilising the food web. Climate-induced storms and extreme weather are now reducing fishing days by an average of 10 to 15 days each year in the Bay of Bengal region; the days of income, days of food, days that cannot simply be recovered.

Chronic ocean warming is driving a nearly 20% annual decline in fish biomass in several major ocean regions. A study from Monash University, published in

early 2026, found that every degree of warming reduces fisheries production, as fish evolve to survive higher temperatures by maturing faster but growing smaller. "This evolution is good for fish but bad for fisheries," said Professor Craig White, who led the research. India's northeast coast tells a similar story. Research on the Bengal and Mahanadi delta systems, which support about 1.25 million people, found that a projected 4^{0}C increase in sea surface temperature would decrease fisheries productivity by around 5 percent, with species-level shifts in what can be caught and where.

None of this means livestock and fisheries are helpless bystanders. World Environment Day 2026 challenges them to recognise that they are part of the solution if the political will and practical support are there. For livestock, the mitigation pathway runs through optimising animal nutrition, reducing enteric fermentation through feed additives, and implementing better manure management through biogas digesters and composting. Silvopastoral systems, integrating trees, fodder crops, and livestock on the same land, promote biodiversity and enhance carbon sequestration simultaneously. FAO notes that more than 90 developing countries have now included livestock in their Nationally Determined Contributions under the Paris Agreement.

In the poultry sector, the road ahead involves a twin agenda: cutting emissions while building resilience. The Indian poultry industry is growing fast, which means even reducing emission intensity per bird may not suffice if overall volume rises. The sector needs investments in cooling infrastructure, smart ventilation, and nutritional interventions, antioxidants like Vitamins C and E, along with electrolyte supplements, have demonstrated real promise in buffering heat stress

In the poultry sector, the road ahead involves a twin agenda: cutting emissions while building resilience. The Indian poultry industry is growing fast, which means even reducing emission intensity per bird may not suffice if overall volume rises. The sector needs investments in cooling infrastructure, smart ventilation, and nutritional interventions, antioxidants like Vitamins C and E, along with electrolyte supplements, have demonstrated real promise in buffering heat stress. Indigenous poultry breeds, better adapted to tropical conditions, also deserve far more attention from breeders and policymakers than they currently receive.

There is something particularly apt about this year's theme. "Inspired by Nature" is not just a slogan for livestock and fisheries, it is literally the operating principle. These sectors exist only because nature provides: grasslands for cattle, plankton for fish, rain for fodder, cool water for prawns. When nature frays, the sector frays with it. India's animal agriculture sector, dairy, poultry, meat, and fisheries, feeds hundreds of millions of people and supports the livelihoods of innumerable livestock keepers and fisherfolk. Climate change is not a distant threat to this world, it is already restructuring it; which animals to keep, who can still fish and where, who can afford to adapt and who cannot. World Environment Day 2026 should be a constant reminder that the climate does not negotiate; it just sends signals: rising temperatures, shrinking fish stocks, more intense cyclones, drying fodder fields. The question is whether we are paying attention and responding before these signals become catastrophes.

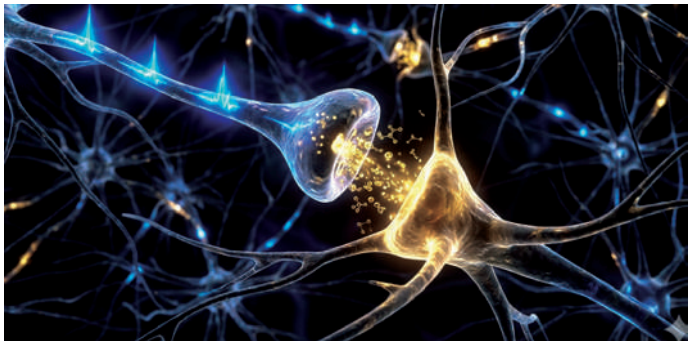
The Connection Between Protein & A Happy Healthy Lifestyle

Team ABTL

We all experience mood dips, from mid-afternoon slumps to that restless, foggy feeling after a poor night's sleep. But what if the answer to better emotional balance isn't in your coffee cup or social feed, but your protein diet?

More than just fuel, food directly influences your brain chemistry. And when it comes to stabilising mood, protein plays a leading role. From boosting "happy hormones" like serotonin and dopamine to helping you feel fuller and calmer, high-quality protein can make a real difference.

The Protein Connection: How Amino Acids Lift Your Mood



Proteins are made up of amino acids, some of which are essential building blocks for brain chemicals that regulate your mood:

- Tryptophan is a precursor to serotonin, the neurotransmitter responsible for feelings of wellbeing and emotional calm
- Tyrosine helps produce dopamine and norepinephrine, which are tied to motivation, focus, and alertness

Without enough of these amino acids, your brain can't synthesise these "feel-good" chemicals efficiently. And here's the catch—your body can't store or produce all amino acids on its own. You have to get them from what you eat.

That's where complete protein sources, like chicken and eggs come in. They deliver all the essential amino acids your brain and body need to function at their best.

Boost Your Mood with Better Nutrition. Proper Nutrition Brings Happiness. Fuel Your Ambition, What we Live By.

The World Happiest Country rankings and their Daily Protein Consumption

Sl No.	Country	Happiness Score	Daily Protein Consumption per capita
1	Finland	7.7	123 g
2	Iceland	7.5	151 g
3	Denmark	7.5	113 g
4	Costa Rica	7.4	75 g
5	Sweden	7.3	70 g

Emotional well-being is a fundamental pillar of our overall health, directly affecting our quality of life, daily choices, and eating habits. Often, our psychological state influences the way we eat, while at the same time, our diet has the power to shape our mood.

Understanding this interaction can help us adopt healthy habits that promote both physical and mental balance.

You're braver than you believe, and stronger than you seem, and smarter than you think.

THE SOYBEAN MEAL CRUNCH

As India's poultry industry faces its biggest feed challenge in years; a 40% surge in soybean meal prices has exposed the vulnerabilities of India's feed ecosystem. IPR probes to find, can the industry diversify its protein basket before rising costs threaten the growth story of Indian poultry?

The Alarm Bells Are Ringing

The Indian poultry industry has weathered many storms—avian influenza outbreaks, maize shortages, the COVID-19 disruption and volatile market cycles. Yet, few challenges strike at the very heart of poultry economics like the current soybean meal (SBM) crisis.

In recent weeks, soybean meal prices have climbed sharply to around Rs. 60-66 per kg, representing an increase of over 40 per cent. The rise has sent shockwaves through the feed industry, where soybean meal remains the single most important source of protein.

The recent statement by the Compound Livestock Feed Manufacturers Association of India (CLFMA) described the situation as an urgent concern for the entire animal value chain. The organisation warned that supply constraints and rising prices are exerting enormous pressure on feed manufacturers, poultry producers, dairy farmers and aquaculture operators, threatening the competitiveness and sustainability of India's animal protein economy. The concern is understandable.

Feed contributes nearly 65-70 per cent of poultry production costs. Of this, protein ingredients account for almost one-third. Therefore, every rupee increase in soybean meal prices directly impacts the cost of producing chicken meat and eggs. The consequences are already visible:

- Rising feed costs for manufacturers
- Reduced margins for poultry farmers
- Pressure on chicken and egg prices
- Delayed expansion plans by producers
- Increased risks for small and medium enterprises

What appears to be a commodity price spike is, in reality, a reminder that India's poultry industry has become dangerously dependent on one protein ingredient.

Why Soybean Meal Matters?	
Parameter	**Soybean Meal**
Protein Content	44-48%
Share in Poultry Protein Supply	Dominant
Digestibility	Excellent
Lysine Availability	High
Inclusion in Poultry Feed	20-30% depending on formulations
Contribution to Feed Cost	Significant
Takeaway: No other plant protein source currently matches soybean meal's combination of quality, digestibility and availability.	

A Look Back: How India Became Dependent on Soybean Meal

India's poultry feed story mirrors the transformation of the country's poultry industry itself. In the 1970s and early 1980s, poultry farming was largely backyard-based. Feed ingredients varied by region and consisted of local grains, rice bran, groundnut cake and oilseed residues. It's the organised poultry revolution of the 1990s that changed everything.

Scientific nutrition practices introduced standardised feed formulations. Maize emerged as the preferred energy source, while soybean meal became the gold standard protein ingredient because of its:

- High protein content
- Balanced amino acid profile
- Superior digestibility
- Consistent nutrient quality
- Reliable commercial availability

The rise of soybean cultivation in Madhya Pradesh, Maharashtra and Rajasthan further strengthened this dependency. At the same time, India's poultry industry expanded dramatically. Today, India is among the world's leading producers of eggs and broiler meat and manufactures more than 45 million tonnes of compound feed annually. The success story, however, came with a structural weakness.The industry increasingly became dependent on only two commodities: maize for energy and soybean meal for protein. Whenever either commodity experiences supply disruptions, the entire poultry ecosystem comes under stress.The present crisis is, therefore, not simply a shortage—it is the consequence of decades of nutritional concentration.

Evolution of India's Feed Industry		
Period	**Major Feed Ingredients**	**Industry Characteristics**
1970s	Rice bran, oil cakes, local grains	Backyard poultry
1980s	Groundnut cake, maize, bran	Early commercialisation
1990s	Maize + Soybean Meal	Scientific feed formulations
2000-2015	Large-scale SBM dependence	Rapid poultry expansion
2015-2026	High SBM and maize dependence	Integrated commercial poultry
Lesson: Productivity increased, but feed ingredient diversity declined.		

Why Has Soybean Meal Become So Expensive?

Several factors have converged simultaneously.

1. **Lower Production:** Erratic weather and fluctuating yields in soybean-growing regions have reduced availability
2. **Demand Explosion:** Soybean meal is no longer demanded only by poultry producers. Dairy, aquaculture and pet food sectors are also competing for supplies
3. **Commodity Speculation:** Periods of uncertainty often trigger aggressive stock-building and speculative activity, intensifying market shortages
4. **Global Volatility:** International vegetable oil prices, geopolitical disturbances and changing trade dynamics influence domestic soybean economics
5. **Processing Constraints:** Uneven distribution of crushing facilities and logistical bottlenecks contribute to regional shortages

Who is Feeling the Heat?	
Sector	**Impact**
Feed Manufac-turers	Higher raw material costs and margin pressure
Broiler Farmers	Rising cost of production
Layer Farmers	Lower profitability and delayed expansion
Dairy Producers	Increased feed costs
Aquaculture Sector	Costlier protein formulations
Consumers	Potential rise in chicken and egg prices

The Regional Dimension of the Crisis

India's poultry industry is not homogeneous. Solutions cannot be one-size-fits-all. However, if we look at this regionally we find that there are several ways to handle the situation. For example, in Northern India arises a diversification opportunity. With Punjab, Haryana and Uttar Pradesh having the opportunity to integrate:

- Mustard meal
- Rice DDGS from ethanol plants
- Wheat by-products
- Regionally available oil cakes

The rapid expansion of grain ethanol production offers a historic opportunity to reduce soybean dependence. While in Western India there is a promise of strengthening the soybean heartland. As Maharashtra, Gujarat and Madhya Pradesh remain the backbone of India's soybean economy, the region must focus on:

- Improving soybean productivity
- Expanding crushing capacities
- Developing strategic reserves
- Promoting value-added protein ingredients

The western region can become India's protein security hub. And Southern India is the poultry powerhouse of the country. Tamil Nadu, Telangana, Andhra Pradesh and Karnataka account for almost half of India's commercial poultry production. And the region's dependence on continuous soybean meal supply is extremely high.

The way forward here lies in:

- Long-term procurement contracts
- Precision nutrition technologies
- Synthetic amino acid use
- Enzyme-based feed efficiency programmes
- Alternative protein inclusion

Even a five per cent reduction in soybean meal dependency could translate into significant savings. And finally, the Eastern and North-Eastern India can actually be looked as India's next feed frontier. As West Bengal, Bihar, Odisha and the North-East represent India's fastest-growing poultry consumption markets. This region offers tremendous opportunities through:

- Expansion of soybean cultivation
- Decentralised feed manufacturing clusters
- Rice by-products utilisation
- Promotion of local oilseed crops
- Reduction in transport dependence

The North-East, in particular, can emerge as a model for regional feed self-sufficiency.

Regional Roadmap for Protein Security		
Region	**Immediate Solution**	**Long-term Strategy**
North India	Mustard meal, DDGS	Ethanol-linked protein ecosystem
West India	Improve soybean yields	Protein processing hub
South India	Precision nutrition	Alternative proteins and feed technologies
East & North-East	Local feed clusters	Regional self-sufficiency

Beyond Soybean Meal: The Search for New Proteins

The present crisis should accelerate the industry's transition toward protein diversification. It should concentrate on the available expansion to several experiemntal nad proven success ingredients as follows.

Mustard Meal: India's most accessible alternative protein. Among the various alternatives to soybean meal, mustard meal perhaps offers the most immediate and practical opportunity for the Indian feed industry. India is one of the world's largest producers of mustard and rapeseed, with significant cultivation concentrated in Rajasthan, Haryana, Uttar Pradesh and Madhya Pradesh. Traditionally, mustard meal has been used in cattle feed because of concerns over glucosinolates and other anti-nutritional factors that limited its use in poultry diets. However, advances in plant breeding and processing technologies have considerably improved the quality of mustard meal available today.

The current soybean meal crisis has prompted nutritionists and feed manufacturers to revist mustard meal with renewed interest. Modern low-glucosinolate varieties and improved processing methods allow controlled inclusion in poultry feed formulations, particularly in broiler finisher and layer diets. Its widespread availability and relatively stable production volumes make it an attractive option for Northern India, where transportation costs from soybean-producing regions can further inflate feed prices.

The larger advantage lies in India's exisiting oilseed

ecosystem. Encouraing greater use of mustard meal can create a more diversified protein basket, improve farmer incomes by strengthening demand for oilseed crops and reduce dependence on a single protein source. With further research, enzyme supplementation and precision formulation techniques, mustard meal could emerge as one of the most important strategic ingredients in India's protein security roadmap.

Rice DDGS: The Ethanol Revolution'a gift to the feed industry. Distillers Dried Grains with Solubles (DDGS), a co-product of the ethanol industry, may well become one of the defining feed ingredients of the next decade. As India aggressively expands its grain-based ethanol programme to meet energy security and biofuel blending targets, the production of DDGS is expected to increase substantially. This development presents a unique opportunity for the poultry sector.

Rice and maize-based DDGS contain valuable protein, energy and digestible phosphorus and have already found acceptance in livestock feeding systems globally. In India, where the poultry industry has become highly vulnerable to soybean meal and maize price fluctuations, DDGS offers an alternative source of nutrients that can partially replace conventional feed ingredients.

The Northern and Eastern states are particularly well-positioned to benefit because many of the new ethanol plants are located in these regions. The availability of DDGS near feed manufacturing clusters can reduce transportation costs and improve regional feed security. Furthermore, the ingredient supports the principles

of a circular economy by converting an energy industry's by-product into valuable animal nutrition.

However, quality consistency remains a challenge. Nutrient composition can vary considerably depending on the raw material and processing technology employed by ethanol plants. Standardisation, quality assurance protocols and nutritional research are, therefore, essential to unlock DDGS's full potentioal. If supported by scientific evaluation and proper quality monitoring, DDGS could become one the Indi'a most important alternative proteins and significantly reduce the poultry sector's depence on soybean meal.

Cottonseed Meal: An underutilised resource from India's cotton belt. India is among the world's leading cotton-producing nations, generating substantial quantities of cottonseed meal every year. Yet, despite its abundant availability, cottonseed meal remains significantly underutilised in commercial poultry feed formulations. The primary reason is the presence of gossypol, a naturally occurring anti-nutritional compound that can negatively affect bird performance when used indiscriminately.

Nevertheless, advances in processing technology and nutritional management have opened new possibilities. Modern processing techniques have enabled the production of lower-gossypol cottonseed meal, while improved understanding of amino acid balanacing and inclusion levels has made its controlled use increasingly feasible.

For states such as Gujarat, Maharashtra and Telengana, which possess both large and cotton-growing regions and significant poultry production capacities, cottonseed meal represents an important opportunity to improve feed resilience. Incorporating even modest quantities into feed formulations can reduce pressure on soyabean meal demand during periods of supply shortages.

The economic implications are equally important. Better utilisation of cottonseed meal can strengthen linkages between Indi's crop and livestock sectors, create additional value for cotton farmers and reduce dependence on imported or expensive protein sources. Greater investment in research, standardisation and extension services will be essential to build confidence among feed manufacturers.

At a time when the industry is actively searching for alternatives, cottonseed meal deserves renewed attention as a strategic domestic protein resource that can contribute meaningfully to India's long-term feed security.

Sunflower Meal: A neglected ingredient with significant potential. Sunflower meal often remains overshadowed by soybean meal and other conventional protein sources. It possesses considerable untapped potential to the Indian feed industy. Produced as a by-product of sunflower oil extraction, sunflower meal contains moderate levels of protein and is available in varying grades depending on the extent of hull removal during processing.

Historically, its use in poultry feed has been constrained by high fibre content and concerns regarding lower energy values. However, advances in feed formulation software, enzyme technologies and nutritional precision have significantly improved the prospects of sunflower meal utilisation.

The ingredient offers several advantages. It is widely available in certain agricultural belts and can be incorporated strategically in poultry feed formulations, particularly when soybean meal prices become prohibitively expensive. The inclusion of sunflower meal, even at moderate levels, can contribute to diversification of the protein basket and reduce the industry's vulnerability to commodity shocks.

Its utilisation also aligns with the broader objective of building a more sustainable feed system by making better use of locally available agricultural resources. Feed manufacturers increasingly recognise that future resilience will depend not on finding a perfect substitute for soybean meal, but on intelligently combing multiple alternative ingredients.

As research advances and processing technologies improve, sunflower meal could play a much larger role in India's feed formulations than it does today. In an era of rising input costs and climate uncertainties, every viable protein source deserves careful reconsideration.

Insect Protein: A sustainable protein source for the future. Globally, insect protein has emerged as one of the most exciting innovations in animal nutrition. Black Soldier Fly (BSF) larvae,

mealworms and other insect-derived proteins are increasingly being recognised for their remarkable efficiency in converting organic waste into high-quality protein and fat.

The appeal of insect protein lies in its sutainability credentials. Insects require significantly less land, water and feed resources compared to conventional crops and livestock systems. They also generate lower greenhouse gas emissions and can utilise food waste and agricultural residues as substrates, making them ideal components of a circular economy.

> The present supply chain constraints and rising prices are placing immense pressure on feed manufacturers and farmers alike, threatening the competitiveness and sustainability of India's animal protein value chain
> - CLFMA Statement

Nutritionally, insect meals possess highly digestible protein and favourable amino acid profiles. Research across several countries has demonstrated promising results in poultry and aquaculture diets. Although commercial adoption remains at an early stage in India, interest is growing rapidly among feed manufacturers, researchers and start-ups.

Several Indian enterprises are already investing in insect farming technologies, particularly for aquaculture and pet food applications. As production scales up and regulatory frameworks evolve, poultry nutrition may become another major area of application.

Challenges remain, including production costs, quality standards and regulatory acceptance. However, the history of food innovation suggests that disruptive technologies often begin as niche solutions before becoming mainstream. Insect protein may not replace soybean meal in the immediate future, but it could emerge as an important supplementary protein source over the next decade, contributing significantly to India's goals of sustainability, resource efficiency and protein diversification.

Fermented and Single-Cell Proteins: The biotechnology frontier perhaps the most transformative opportunity for the future of animal nutrition lies in microbial and fermentation-derived proteins. Single-cell proteins produced from yeast, algae, fungi and bacteria have attracted increasing attention globally as sustainable and highly efficient sources of nutrition.

Unlike unconventional protein crops, microbial proteins can be produced independent of seasonal cycles, weather conditions and agricultural land availability. Their production requires comparitively smaller environmental footprints and offers the possibility of highly consistent nutritional composition. Such characteristics are particularly attractive for a country like India, where climate variability and resource contraints increasingly threaten feed ingredient security.

Fermentation technologies are also advancing rapidly. Precision fermentation can generate highly specialised proteins and amino acids tailored for animal nutrition requirements. Several global companies are investing heavily in these technologies, and India, with its growing biotechnology ecosystem, possesses significant potential to participate in this emerging sector.

For the country industry, single-cell proteins represent a strategic long-term opportunity rather then an immediate solution. Production costs remain relatively high, and commercial scalability is still evolving. Nevertheless, as technological efficiencies improve and economies of scale develop, these novel proteins could become increasingly competitive.

The importance of microbial proteins extends beyond simple ingredient substitution. They represent an entirely new paradigm in feed production – one that decouples protein availability from agricultural uncertainties. In a future marked by climate change, land limitations and rising demand for animal protein, biotechnology-derived feed ingredients may become indispensable components of a resilient and sustainable feed ecosystem. For India's poultry industry, investing in research and partnerships in this space today may prove critical to securing tomorrow's protein requirements.

The Technology Imperative

Modern feed science offers manifold solutions:

- **Precision Formulation:** Lower protein diets supplemented with amino acids can reduce soybean dependency
- **Enzyme Technology:** Improves nutrient digestibility and ingredient utilisation
- **Artificial Intelligence:** Can optimise feed formulations and procurement decisions
- **Predictive Commodity Analytics:** Allows companies to better manage price risks and inventory

The future of feed manufacturing will depend as much on data and technology as on agriculture itself.

The Way Forward: Building a Resilient Protein Economy

The soybean meal crisis of 2026 may ultimately prove to be a turning point. India's poultry industry is projected to continue its impressive growth trajectory, driven by urbanisation, rising incomes and increasing demand for affordable animal protein. However, sustaining this momentum will require a new philosophy of feed security.

The industry must move towards:

- Diversified protein baskets
- Region-specific feed solutions
- Greater investment in alternative proteins
- Improved soybean productivity
- Precision nutrition technologies
- Better commodity intelligence and market transparency

The lesson is simple but profound. India cannot continue to place the future of its poultry industry on a single protein ingredient. The current soybean meal shortage is not merely a supply disruption. It is a wake-up call.

And perhaps, years from now, the crisis of 2026 will be remembered as the moment that compelled India's feed and poultry sectors to rethink protein security and build a more resilient, innovative and sustainable animal agriculture economy.

Aviagen® India | ROSS

ROSS 308 AP

cFCR*

1.16

*adjusted to 2kg body weight

PRECISION PERFORMANCE PROVEN

Efficiency that drives your bottom line.
Turning feed into measurable profit.

BREEDING SUCCESS TOGETHER

SCAN ME

To learn more about the Ross 308 AP in India

AVIAGEN INDIA POULTRY BREEDING COMPANY

+91 7483721180 | indiasales@aviagen.com | www.aviagen.com

ROSS 308 AP

BEST ACHIEVERS
APRIL-2026

Aviagen INDIA

Northern Region

COMPANY: IB Group
FARMER NAME: Mr. Abhay Kumar Singh

APRIL-2026	Top #1
Farm Type	Closed Shed
State	UTTAR PRADESH
Chicks Placed	9990
Mean Age	39.0
Avg Body Wt	3242
FCR	1.447
cFCR	1.171
Livability%	96.4
Daily Gain	83.1
EPEF	553.9

Eastern Region

COMPANY: IB Group
FARMER NAME: Mr. Epari Rajani

APRIL-2026	Top #1
Farm Type	Closed Shed
State	ORISSA
Chicks Placed	10804
Mean Age	41.0
Avg Body Wt	3399
FCR	1.538
cFCR	1.227
Livability%	97.0
Daily Gain	82.9
EPEF	522.7

Central Region

COMPANY: IB Group
FARMER NAME: Mr. Devendra Kumar Sahu

APRIL-2026	Top #1
Farm Type	Closed Shed
State	CHHATTISGARH
Chicks Placed	11209
Mean Age	47.0
Avg Body Wt	3775
FCR	1.624
cFCR	1.230
Livability%	91.2
Daily Gain	80.3
EPEF	450.9

South Region

COMPANY: IB Group
FARMER NAME: Mr. Allagadapa Murali

APRIL-2026	Top #1
Farm Type	Closed Shed
State	TELANGANA
Chicks Placed	15464
Mean Age	35.0
Avg Body Wt	2500.0
FCR	1.372
cFCR	1.261
Livability%	95.0
Daily Gain	71.4
EPEF	494.6

APRIL-Top PERFORMANCE BY AREA

Area	Chicks Placed	Mean Age(Days)	BW	FCR	cFCR(2Kg)	Livability%	Daygain	EPEF
North EC House	9990	39.0	3242	1.447	1.171	96.4	83.1	553.9
North Open House	2722	39.0	2924	1.395	1.190	96.7	75.0	519.9
East EC House	10804	41.0	3399	1.538	1.227	97.0	82.9	522.7
East Open House	2032	39.0	2785	1.410	1.236	96.6	71.4	489.2
Central EC House	11209	47.0	3775	1.624	1.230	91.2	80.3	450.9
Central Open House	2448	45.0	3307	1.578	1.288	95.8	73.5	446.1
South EC House	15464	35.0	2500	1.372	1.261	95.0	71.4	494.6
South Open House	10405	36.0	2359	1.435	1.355	97.6	65.5	445.9

APRIL-Top 10 FIELD PERFORMANCE

Flock	Farm Type	State	Chicks Placed	Mean Age	BW	FCR	cFCR	Livability%	Day Gain	EPEF
Flock 1	CLOSED SHED	UTTAR PRADESH	9990	39.0	3242	1.447	1.171	96.4	83.1	553.9
Flock 2	OPEN SHED	ASSAM	1848	33.0	1556	1.077	1.176	95.8	47.2	419.5
Flock 3	OPEN SHED	PUNJAB	2722	39.0	2924	1.395	1.190	96.7	75.0	519.9
Flock 4	CLOSED SHED	HARYANA	14297	43.0	3474	1.534	1.206	95.3	80.8	501.9
Flock 5	OPEN SHED	UTTAR PRADESH	2013	39.0	2921	1.414	1.209	96.9	74.9	513.4
Flock 6	OPEN SHED	PUNJAB	20092	44.0	3350	1.517	1.217	97.1	76.1	487.1
Flock 7	OPEN SHED	UTTAR PRADESH	10493	42.0	3133	1.474	1.222	93.7	74.6	474.2
Flock 8	OPEN SHED	UTTAR PRADESH	2732	41.0	3081	1.463	1.223	94.7	75.1	486.4
Flock 9	OPEN SHED	UTTAR PRADESH	2876	41.0	3077	1.464	1.225	94.0	75.0	481.8
Flock 10	CLOSED SHED	ORISSA	10804	41.0	3399	1.538	1.227	97.0	82.9	522.7

2026 Alltech Agri-Food Outlook

Alltech recently released its 2026 Agri-Food Outlook, a report that includes the results of the company's annual global feed production survey. Based on that data, global feed production in 2025 reached an estimated total of 1.44 billion metric tons — representing an increase of 2.9% and 40.136 million mt from 2024.

Most regions and sectors experienced growth, and the numbers suggest a strong recovery phase for animal agriculture; however, the data show that growth was uneven, increasingly regionalised and driven less by herd expansion than by structural change, productivity gains and shifts in how production is measured and recorded.

Now in its 15th year, the annual survey that serves as the foundation of the Alltech Agri-Food Outlook report collected data from 142 countries and 38,837 feed mills in late 2025. By analysing compound feed production and prices— collected by Alltech's global sales team and in partnership with feed associations and official data-collecting organisations— the survey provides a comprehensive snapshot of global feed production. These insights serve as a barometer for the overall livestock industry, highlighting key trends across species, along with regional challenges and opportunities for growth.

Top 10 Countries

The top 10 feed-producing countries globally remained unchanged between 2024 and 2025. These 10 countries (listed below) collectively produced 65.2% of the world's feed in 2025 — and 47.7% of all global feed tonnage was produced in the top three countries: China, the U.S. and Brazil.

- China: 330.063 million mt; +4.8%
- U.S.: 267.383 million mt;-0.8%
- Brazil: 89.904 million mt; +2.8%
- India: 57.729 million mt; +4.5%
- Mexico: 41.883 million mt;+1.2%
- Russia: 38.347 million mt;+1.1%
- Spain: 37.507 million mt;-3.4%

- Vietnam: 26.524 million mt;+2.6%
- Türkiye: 25.480 million mt;+3.8%
- Japan: 24.006 million mt;-1.3%

Global Feed Volume Resultsby Species

- Broiler: 400.379 million mt; +3.7%
- Layer: 180.126 million mt; +3.2%
- Pig: 380.907 million mt; +3.0%
- Dairy: 170.294 million mt; +2.6%
- Beef: 134.181 million mt; +0.5%
- Aquaculture: 55.470 million mt; +4.7%
- Pet: 39.276 million mt; +2.4%
- Equine: 10.194 million mt; +0.2%

Notable Regional Results

- **Asia (559.297 million mt):** Asia remained the global centre of feed production in 2025, with growth shaped by industrialisation and price-conscious consumers increasing the demand for poultry and aquaculture. Continued shifts from on-farm mixing to commercial feed, especially in China, supported record output. Southeast Asia entered a rebuild-and-export cycle, with the recovery of the sow herd lifting pork output; additionally, while poultry feed tonnage also remained strong, disease outbreaks are now a consistent challenge and threat

- **North America (288.620 million mt):** In 2025, North American feed tonnage contracted modestly (by 0.7%), primarily due to a historically tight cattle cycle and declining beef herd dynamics. The region still saw some selective, species-driven momentum, with growth concentrated in broilers and dairy. Stabilisation also emerged in pork feed, and the egg and turkey sectors remained in recovery following health-related disruptions. Operational efficiency gains, sustainability pressures, formulation optimisation, and consolidation among feed mills continue to reshape the feed industry across the region

- **Europe (274.061 million mt):** Europe's feed sector in 2025 was differentiated, yet broadly resilient, growing by 1.0%. Lower raw material prices, supported by large global harvests of soybeans, rapeseed, wheat and maize, improved margins and stimulated production in several key markets. Despite ongoing disease pressure and regulatory constraints, the region stabilised overall. Modest gains in dairy and broilers offset pressure in other segments, while evolving trade frameworks and sustainability expectations continue to reshape production strategies across the region

- **Latin America (204.446 million mt):**
  In 2025, Latin America solidified its position as the world's premier "protein basket." Compound feed demand expanded 2.8% year over year, rising by 5.536 million mt, supported by strong export markets and lower grain prices. Growth was broad-based, particularly in poultry, pork and aquaculture, although localised disruptions in parts of the Andean and Caribbean sub-regions tempered overall expansion

- **Africa and the Middle East (102.549 million mt):**
  This region experienced a year of divergence in 2025. While Africa expanded strongly (+11.5%) on commercialisation and rising compound feed penetration, the Middle East entered a structural plateau (+1.1%), balancing disease pressures and regulatory or resource constraints. Across both sub-regions, three forces shaped performance: protein affordability, input vulnerability driven by grain prices and currency volatility, and continued disease disruptions — particularly related to foot-and-mouth disease and avian influenza

- **Oceania (11.104 million mt):**
  Oceania showed broad-based gains in 2025, with an overall 3.4% increase supported by population growth, resilient livestock sectors and strong export demand. Absolute increases were at their strongest in the broiler, layer, beef and pork sectors. High feedlot numbers and elevated cattle inventories sustained record beef production, particularly in Australia (+11%), with more moderate growth in New Zealand (+1.6%). Recovery in layer feeds following an avian influenza outbreak, along with steady demand for chicken and pork, contributed to a balanced regional expansion

Alltech Agri-Food Outlook insights for South Asia

The Indian animal feed sector maintained steady growth in 2025 across major segments. Broiler feed production increased by 2.5%, driven by strong poultry meat demand and expansion by major integrators. Layer feed recorded a 4.47% growth, supported by consistent demand for eggs as an affordable protein source. Breeder feed also grew by 4.08%, reflecting continued industry confidence and ongoing investments in the poultry sector.

Dairy feed registered strong growth of 6.83%, driven by rising focus on productivity, better infrastructure, genetic improvement, and increasing demand for quality dairy products. Aqua feed sector grew by 5.35% with improving market demand and farm efficiency. Pet feed emerged as the fastest-growing segment with 16.24% growth, supported by rising pet ownership and premium nutrition demand. Swine feed also showed healthy growth whereas equine feed demand declined following the glanders disease outbreak and cancellation of races.

Bangladesh recorded a significant feed industry growth of 21.66% in 2025, driven mainly by the poultry and dairy sectors. Nepal achieved an 18.92% growth in total feed production, with poultry emerging as the major growth engine, while Sri Lanka registered a 22.13% growth in total feed production.

The compound feed production totals and prices reported in the 2026 Alltech Agri-Food Outlook were collected in the first quarter of 2026 with assistance from feed mills and industry and government entities around the world. These figures are estimates and are intended to serve as an informative resource for industry stakeholders.

Empowering Poultry with Collaboration, Insight & Innovation
Join Us at the 18th Poultry India Expo 2026!

Supported by

Official Media Partner

National Media Partner

Venue Partner

International Magazine Partners

Organised by:

Supporting Associations

INDIAN POULTRY EQUIPMENT MANUFACTURERS ASSOCIATION

Regd. Office: Unit No. 403, Fortune Monarch Mall, Road No. 36, Jubilee Hills, Hyderabad - 500 033, Telangana.
7997994331-9 info@poultryindia.co.in poultryindia.co.in

Networking... Knowledge... Innovation... Be There at Poultry India Expo 2026!

Supported by

Official Media Partner

National Media Partner

Venue Partner

International Magazine Partners

Organised by:

Supporting Associations

INDIAN POULTRY EQUIPMENT MANUFACTURERS ASSOCIATION

Regd. Office: Unit No. 403, Fortune Monarch Mall, Road No. 36, Jubilee Hills, Hyderabad - 500 033, Telangana.

7997994331-9 info@poultryindia.co.in poultryindia.co.in

PhyMune: Advanced Phytogenic Immunomodulation for Precision Poultry Nutrition

Team Avitech

The Challenge of Modern Poultry Production

Modern poultry production faces continuous physiological and immunological challenges arising from high stocking densities, intensive vaccination programs, environmental stress, and reduced antibiotic usage. In this demanding production environment, immune competence plays a critical role in influencing flock performance, feed efficiency, vaccine response, and overall profitability.

Introducing PhyMune

PhyMune is an advanced phytogenic immunomodulator formulated with scientifically selected bioactive compounds including andrographolides, mangiferin, hydrolysable tannins, gallic acid, and ellagic acid.

PhyMune provides a multi-pathway defense strategy that strengthens both innate and adaptive immunity. The product was scientifically evaluated in commercial broilers for its effects on growth performance, immune response, gut integrity, haematological and biochemical parameters, and overall production efficiency.

Scientific Evaluation of PhyMune

The study was conducted at the College of Veterinary Science & Animal Husbandry using commercial VenCobb 430Y broilers over a 42-day production cycle. A total of 120 birds were allocated into control and treatment groups, with PhyMune supplemented at 500 g/ton of feed.

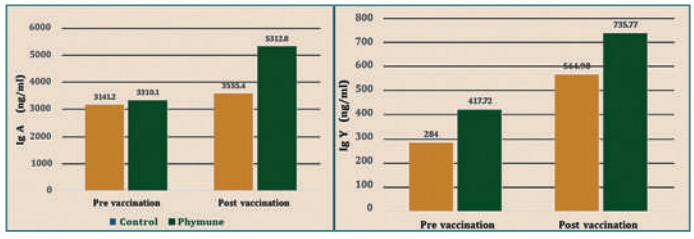
Strengthening the Humoral Defence and Vaccine Response

Effective vaccination programs depend on the bird's capacity to mount a strong antibody response. PhyMune acts as a potent nutritional adjuvant, enhancing B-cell activation and systemic antibody production.

PhyMune supplementation significantly enhanced serum antibody titers against the R2B vaccine, demonstrating improved humoral immune function. A substantial increase was observed in both IgA and IgY antibody concentrations following vaccination.

Post-Vaccination Antibody Response

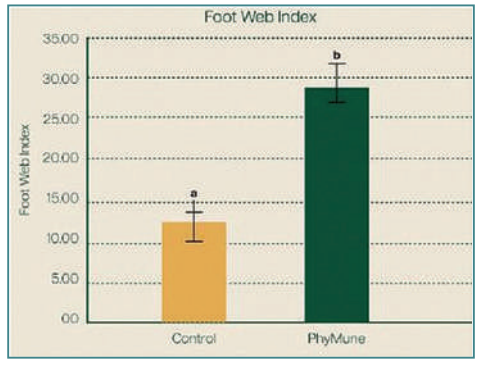
Parameter	Control	PhyMune
IgA (ng/ml)	3310.1	5312.8
IgY (ng/ml)	564.98	735.77



The elevated antibody titers suggest improved immune memory and enhanced vaccine responsiveness in supplemented birds

Enhanced Cellular Immune Response

PhyMune exhibited a pronounced immunomodulatory effect on cellular immunity. Cell-mediated immune response was assessed using the Foot Web Index (FWI) following PHA-P challenge, where supplemented birds demonstrated significantly higher immune responsiveness compared to the control group.



The enhanced FWI response indicates improved lymphocyte activation and stronger cellular defense against pathogenic challenges under intensive production conditions

Enhanced Gut Integrity & Intestinal Morphology

The gastrointestinal tract is the largest immune organ in the poultry body. PhyMune directly supports the Gut-Associated Lymphoid Tissue (GALT) by optimising the intestinal landscape.

PhyMune supplementation demonstrated significant improvements in villi height, villi width, and absorptive surface area throughout the small intestine.

Enhanced intestinal architecture increases the effective absorptive area, thereby supporting improved nutrient utilisation, digestive efficiency, and immune competence.

Group	Duodenum			Jejunum			Ileum		
	Villi Height	Villous Width	Absorptive surface area (mm^2)	Villi Height	Villous Width	Absorptive surface area (mm^2)	Villi Height	Villous Width	Absorptive surface area (mm^2)
Control	1428.7	117.61	0.53	1425.6	92.43	0.41	1343.2	123.71	0.52
Phymune	1660.5	229.64	1.20	1666.6	259.84	1.36	1621.2	249.45	1.27

Reduction in Physiological Stress

Chronic stress indicated by high corticosterone levels is a known immune suppressor. One of the most significant findings in the PhyMune trial was the reduction of the Heterophil: Lymphocyte (H:L) ratio.

Birds supplemented with PhyMune achieved an H:L ratio of 0.42 (compared to 0.62 in the control group). This reduction serves as a definitive biomarker for lower physiological stress. Furthermore, improved levels of Haemoglobin (9.87 g/dl), RBC and total WBC counts confirm that the birds maintain a more stable internal environment, even under intensive production conditions.

Group	Hematological parameters						
	Heterophil (M/mm^3)	Lymphocyte (M/mm^3)	H/L ratio	WBC (M/mm^3)	RBC (M/mm^3)	MCV (fl)	Hemoglobin (g/dl)
Control	35.02	57.32	0.62	1.15	1.89	96.10	8.57
Phymune	26.83	65.98	0.42	1.79	2.29	104.44	9.87

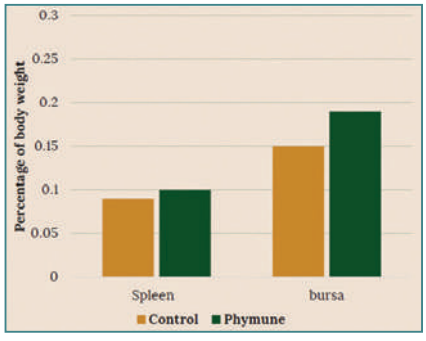
Metabolic Resilience and Efficiency

Immune activation requires energy. If the liver is stressed, performance suffers. PhyMune supplementation was shown to lower serum liver enzymes (ALT: 9.43 IU/l and AST: 257.23 IU/L) and reduce cholesterol levels (147.30 mg/dl). By reducing the metabolic burden, PhyMune allows the bird to divert more energy toward growth rather than stress recovery.

Biochemical Parameter			
Group	ALT (IU/L)	AST (IU/L)	Cholesterol (mg/dl)
Control	10.02	290.53	161.16
PhyMune	9.43	257.23	147.30

Enhanced Immune Organ Development

The study further demonstrated a significant increase in bursa weight in birds supplemented with PhyMune, indicating positive effects on lymphoid organ development and immune system maturation.

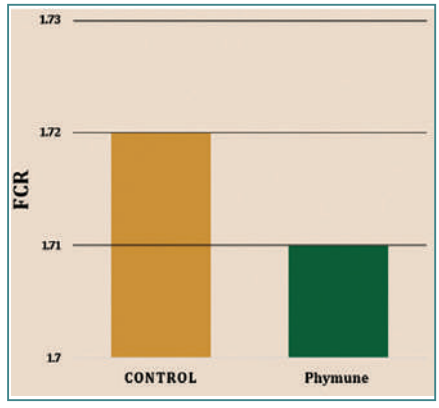


The study further demonstrated a significant increase in bursa weight in birds supplemented with PhyMune, indicating positive effects on lymphoid organ development and immune system maturation

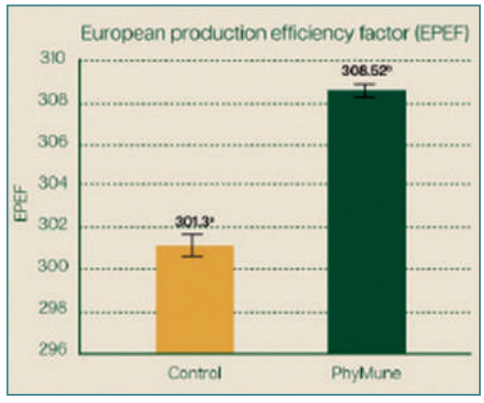
Improved Growth Performance & Production Efficiency

PhyMune supplementation improved overall production performance by improving feed conversion ratio (FCR) and European Production Efficiency (EPEF) in commercial broilers. The improved results may be attributed to better intestinal morphology, nutrient digestibility, and digestive efficiency, ultimately supporting improved growth performance.

Key Performance Outcomes



Feed conversion Ratio (FCR) Improvement is optimised to 1.71



European Production Efficiency Factor rose to 308.52 (vs. 301.3 in controls)

Conclusion

The findings from this scientific evaluation demonstrate that PhyMune functions as a comprehensive phytogenic immunomodulator capable of supporting multiple physiological pathways simultaneously. By enhancing immune responsiveness, improving gut integrity, reducing physiological stress, and supporting metabolic stability, PhyMune contributes to improved flock resilience and production efficiency.

The study validates PhyMune as an effective nutritional strategy for modern poultry systems focused on improving immunity, performance consistency, and sustainable productivity under commercial farming conditions.

PhyGeno

Plant Based Solutions

Introducing

PhyMune™

Plant-Based Immunomodulator

Boosts Vaccine Response

Improves Growth & Efficiency

Builds Resilience and Immunity

PhyGeno
(A division of Avitech Nutrition)
connect@phygeno.com
www.phygeno.com

Novel Alternatives for Managing Antibiotic Resistance, Residues & Growth Promotion in Poultry

Team ABTL

"Nutrinomics, is the merging of the nutrition and health economics disciplines to assess the impact of nutrition on animal health and disease and to illustrate the health and economic aspects of specific changes in the daily nutrition and nutrition recommendations through the lens of cost effectiveness".

Introduction

The modern poultry industry is under increasing pressure to optimise efficiency following the phase-out of antibiotic growth promoters (AGPs). To achieve this, we must prioritise gastrointestinal tract (GIT) health to ensure effective nutrient assimilation and robust immunity.

Growing concerns regarding antimicrobial resistance and food safety risks from antibiotic residues necessitate a shift toward safe, natural alternatives. Non-AGP solutions provide residue-free options that enhance bird health without contributing to resistance. A sustainable strategy moving forward involves integrating improved hygiene, biosecurity, and management practices to focus on meat safety, gut health, and an improved Feed Conversion Ratio (FCR) through optimal nutrient absorption.

"Antibiotics may solve today's problems; they create significant risks for tomorrow."

Antibiotic Misuse in Poultry: A Global Health Threat

Antimicrobial Resistance (AMR) in the Indian poultry market is a major concern, largely due to the continued use of Antibiotic Growth Promoters (AGPs). High levels of resistance have been found in common poultry pathogens like Salmonella, E. coli and Clostridium in key production hubs. While India has implemented a National Action Plan (2017) and banned the "last-resort" antibiotic Colistin (2019) for use in food-producing animals, AGPs remain common due to weak regulation and lack of awareness, despite recommendations from the Bureau of Indian Standards (BIS) against their use.

While Antimicrobial Growth Promoters (AGPs) provide effective short-term control, their long-term consequences are significant and cannot be overlooked. These issues include the development of Antimicrobial Resistance (AMR), the presence of residues in meat and eggs, which raises food safety concerns, disruption of the natural gut microbiota, and escalating regulatory restrictions and export limitations.

Understanding the Core Challenge: Gut Health

Modern poultry performance is closely linked to gut efficiency and microbial balance. A compromised gut leads to poor nutrient absorption, increased feed conversion ratio (FCR), wet litter and ammonia issues, and higher susceptibility to infections such as necrotic enteritis.

A key contributor to this imbalance is the presence of undigested feed components, particularly non-starch polysaccharides (NSPs) and complex proteins.

These undigested nutrients become a breeding ground for harmful bacteria, triggering gut dysbiosis and performance losses.

Targeted Control: A Biological and Precise Approach to a Shifting Paradigm

Instead of broadly suppressing microbial populations, a more advanced strategy is to selectively control harmful bacteria while supporting beneficial gut flora. This is where alternative, non-antibiotic solutions are gaining significant attention. One such strategy involves leveraging naturally occurring compounds, known for their potent antimicrobial properties. These alternatives often target the integrity of pathogenic bacterial cell membranes or interfere with their communication (quorum sensing), thereby controlling the proliferation of both Gram-positive and Gram-negative organisms.

Unlike conventional antibiotics that act broadly and may disturb microbial balance, this approach enables a more precise and biologically aligned modulation of the gut ecosystem.

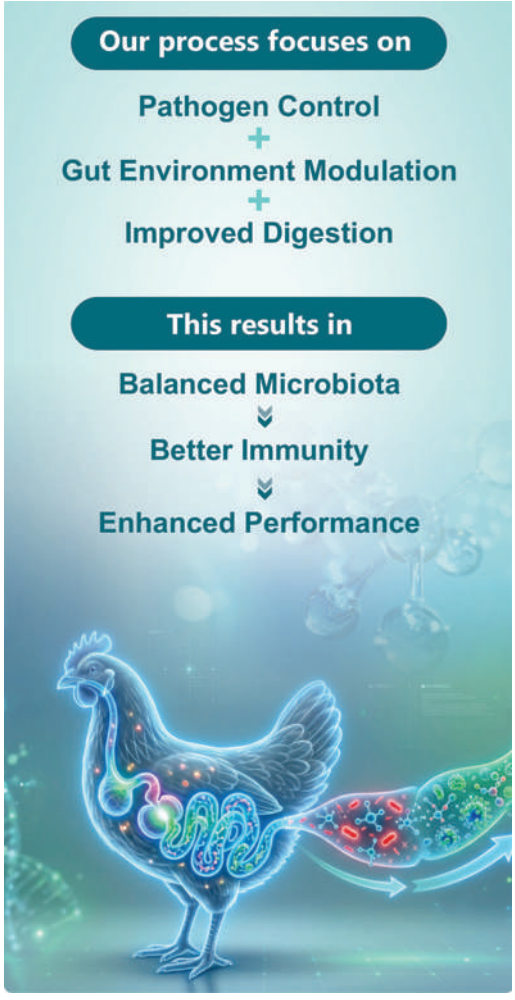
GALLINASE: A Mechanistically-Driven Solution

ABTL offers GALLINASE, a comprehensive feed supplement formulated to enhance the enteric environment through the synergistic action of three primary components: Lysozyme, Glucose Oxidase and Sodium Taurocholate.

Benefits

- Actively eliminates pathogenic bacteria and reduces harmful microbial load.
- Supports the growth and stability of beneficial gut microbiota.
- Improves gut integrity, overall intestinal health, and immunity.
- Assists with stress management.
- Ensures no resistance or residues.
- Improves meat quality and safety.

Unlike conventional approaches, Gallinase enables birds to perform efficiently by optimising their internal ecosystem rather than relying on external suppression.



Comparative Effect of Gallinase in Broiler Diet

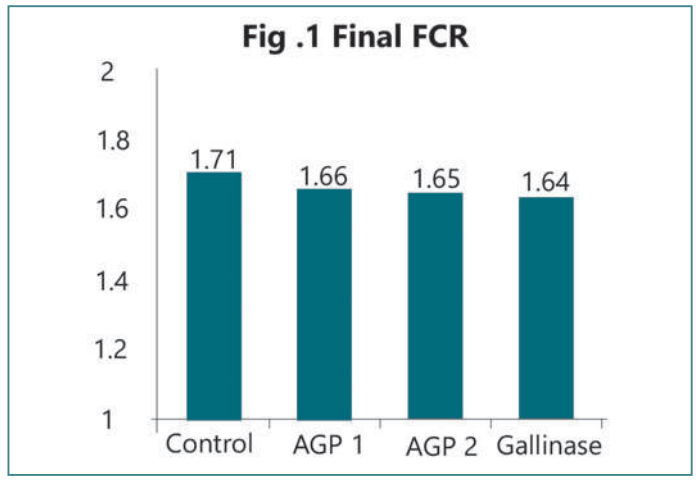


Fig. 1: Improved FCR in the GALLINASE group compared to the AGP 1, AGP 2 & Control (Non GALLINASE) group.

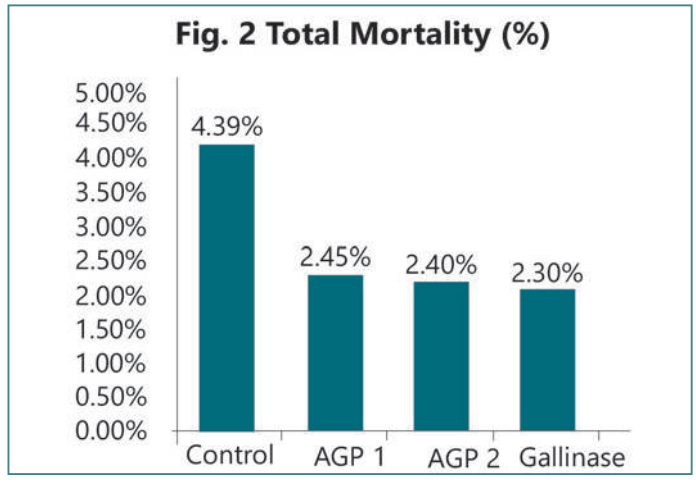


Fig. 2: Reduced Mortality in the GALLINASE group compared to the AGP 1, AGP 2 & Control (Non GALLINASE) group

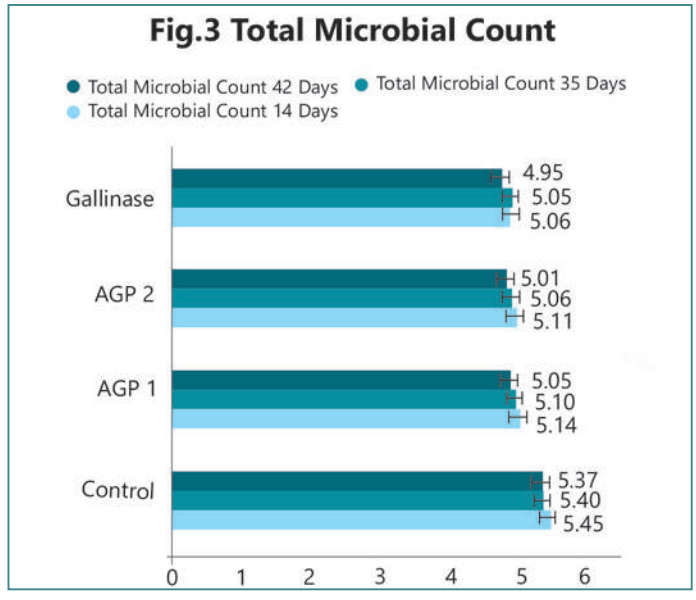


Fig. 3: There is significant reduction in the microbial count in GALLINASE treated group in comparison to the AGP 1, AGP 2 and Control (Non GALLINASE) group

DAHD Organises Workshop on Special Assistance to States for Capital Investment (SASCI)

A review workshop on key issues related to Special Assistance to States for Capital Investment (SASCI) of Livestock Sector Reforms, Artificial Insemination (AI), Vaccination, and the Bharat Pashudhan Portal was conducted on 17th April in Krishi Bhawan, New Delhi, under the chairmanship of Naresh Pal Gangwar, Secretary, DAHD , Government of India, and witnessed active participation from senior officials and dignitaries of Animal Husbandry Departments from all States and Union Territories.

The aim of the workshop was to discuss: (i) issues in Special Assistance to States for Capital Investment (SASCI) on Livestock Sector Reforms, (ii) SoPs and other issues related to vaccination, (iii) SoPs and other issues related to Artificial Insemination, and (iv) issues related to NDLM – Bharat Pashudhan Portal.

The Chairperson outlined the scheme's objectives under SASCI and informed participants about the criteria to be fulfilled or completed to avail incentives. Furthermore, the chairperson advised senior officials to communicate with the concerned authorities for detailed implementation of preconditions of SASCI, ensuring that the proposals are aligned with the state's livestock development plan.

In his opening remarks, Naresh Pal Gangwar informed that most States/UTs Animal Husbandry Department have begun adopting uniform measures in line with guidelines issued by DAHD, Government of India. He highlighted that SASCI Livestock Sector Reforms aim to drive incentive-based capital investment through clear operational frameworks. He urged States/UTs to accelerate implementation, coordinate with Finance Departments for timely budget allocation, submit claims on schedule, and ensure funds are directed solely to livestock activities from the start of the financial year. He also stressed Centre-State convergence, timely reporting, use of digital tools for improved service delivery, and regular monitoring of workshop action points.

During the workshop, a detailed presentation was made by Varsha Joshi, Addl. Secretary, DAHD and deliberations were held on the Standard Operating Procedures (SoPs) for vaccination and Artificial Insemination (AI), along with other related issues. Furthermore, matters concerning the National Digital Livestock Mission (NDLM) – Bharat Pashudhan Portal were thoroughly addressed, with key emphasis placed on achieving seamless data integration, enabling real-time uploading of vaccination and AI records, and ensuring effective service delivery through a unified digital platform across States and Union Territories. Under RGM, States/UTs were urged to deploy MAITRI workers in every Gram Panchayat and submit proposals, while DAHD will expand Artificial Insemination to non-bovine species and pro-mote IVF in sheep for genetic improvement.

During the review, progress under NLM-EDP was reviewed with directions to submit inputs for the second instalment within the defined timeline. Under LHDCP, States/UTs were asked to expedite Action Plans for NADCP, MVUs, and ASCAD, The meeting also reviewed livestock insurance, fodder planning with Rural Development Departments, influenza preparedness, FMD-free zones, and strengthening district diagnostic laboratories.

NATIONAL

IPEMA–Poultry India Strengthens Global Partnerships at NIPOLI Expo 2026, Nigeria

The Indian Poultry Equipment Manufacturers Association (IPEMA)–Poultry India participated in NIPOLI Expo 2026 in Ibadan, Nigeria, reinforcing its commitment to international collaboration and sustainable growth in the poultry and livestock sectors. Led by IPEMA President Uday Singh Bayas, the delegation engaged with policymakers, industry leaders, researchers, and agribusiness professionals, showcasing India's innovations and expertise in poultry equipment and allied technologies.

Recognised as a leading livestock trade platform in West Africa, NIPOLI Expo facilitated knowledge exchange and business networking across the region's rapidly expanding poultry industry. Nigeria, with a poultry sector valued at approximately USD 4.2 billion, offers significant opportunities for technology transfer and investment.

Mr. Bayas emphasised the importance of strengthening trade ties and easing participation for delegates through improved visa and hospitality coordination. IPEMA also invited global stakeholders to the 18th Poultry India Expo 2026, to be held from 25th to 27th November at Hyderabad, with Poultry Knowledge Day on 24th November.

GLOCREST®
Pharmaceutical Pvt. Ltd

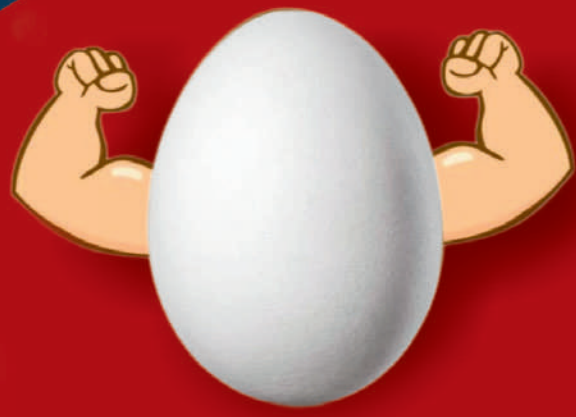
Innovation for a Better Health

CALCITRIOL-D™

Active & Original Vitamin D3 from European Source

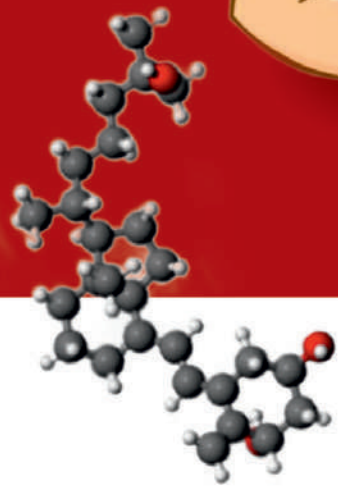
imported from NETHERLANDS

Strong Skeleton and **Strong Egg Shell**

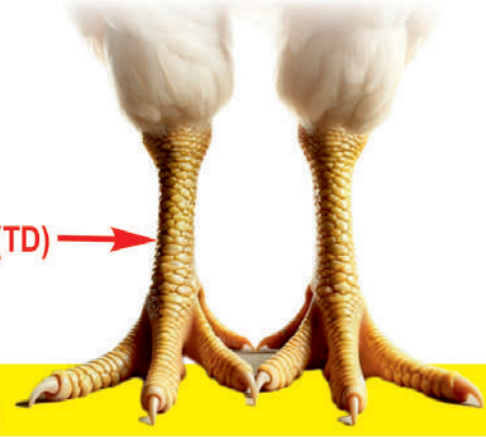


Premix Form

Concentrate Form



- Reduces incidences of **Tibial Dyschondroplasia (TD)**



CALCITRIOL-D™ - The Nutritional Revolution

TM - Trademark ® - Registered Trademark

GLOCREST Pharmaceutical Pvt. Ltd.

Off.: 2018, Solus Hiranandani Business Park, Hiranandani Estate, Thane (W) - 400 607. Maharashtra. India.

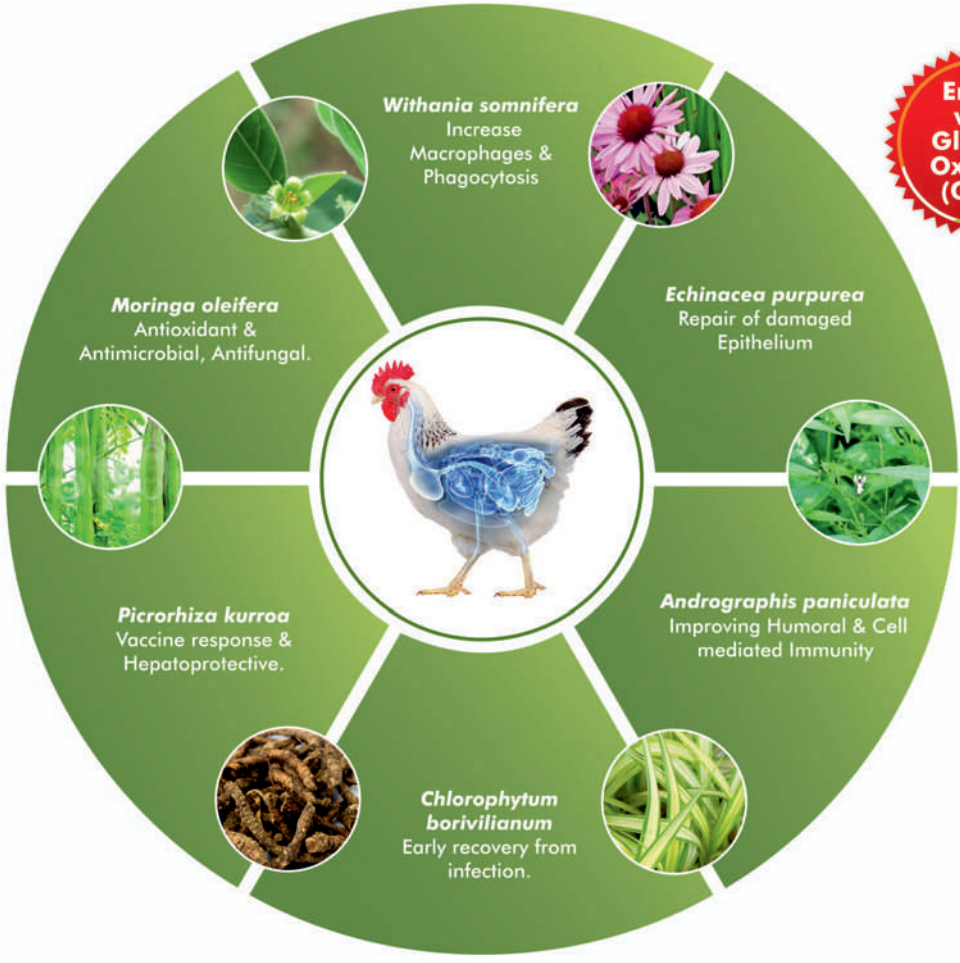
www. glocrestpharma.com +91 22-46007565 info@glocrestpharma.com

ISO CERTIFIED COMPANY · cGMP COMPLIANT · FDA

Venworld®
THE BEST IN ANIMAL HEALTHCARE

PHYTOLIVE® Immune

Boosting Immunity with Phtytogenics



Enrich with Glucose Oxidose (GOD)

Dose : 20 ml / 100 birds in drinking water

- **PHYTOLIVE Immune** helps to regulate the natural defence mechanism, thus enabling birds to prevent the invasion of pathogenic organisms.
- **PHYTOLIVE Immune** strengthen the immune system and stimulates T cells, B cells, Macrophages, Phagocytes and Immunoglobulin.

Venky's®

For further information contact

VENKY'S (INDIA) LIMITED

ANIMAL HEALTH PRODUCTS DIVISION

Regd. Office: 'Venkateshwara House', S. No. 114/A/2, Pune-Sinhagad Road, Pune-411030, Maharashtra, India

Tel.: +91 - 20 - 24251803, Fax.: +91 - 20 - 25458797, Website: www.venkys.com

Venworld Connect Layer Meet in Badami

As part of its ongoing "Venworld Connect" initiative, Venkateshwara B.V. Biocorp organised a technical meeting for layer farmers on 10th April 2026 in Badami, Karnataka. The programme brought together a large number of poultry farmers, integrators, and industry stakeholders, underscoring the sector's increasing inclination towards scientific nutrition and performance-driven management practices.

During the inaugural session, Lokesh R.D. (AGM – South) and M. Babu (Zonal Manager) addressed the gathering, highlighting the crucial role of nutrition in achieving consistent and efficient flock performance.

The technical session was led by Dr. Sunil Nadgauda (DGM – Technical, Venkateshwara B.V. Biocorp), who shared valuable perspectives on the importance of precision nutrition in modern layer production, particularly in the context of today's long-laying birds.

He emphasised that targeted nutritional interventions have a direct impact on critical performance parameters, including feed efficiency (feed per egg), egg production, and flock liveability. Consistent results, he noted, depend on efficient nutrient utilisation at the bird level and the precise balancing of dietary energy and nutrients. Dr. Nadgauda also discussed strategies to sustain productivity and enhance egg quality throughout the laying cycle. Particular attention was given to maintaining production during the later stages of lay, when nutritional challenges intensify. He stressed the importance of balanced nutrition and robust gut health in supporting nutrient absorption, which in turn influences key egg quality parameters such as shell strength, albumen quality, and reduction in eggshell breakage. The session further highlighted the need to maintain an optimal calcium-to-phosphorus (Ca:P) ratio across different production phases to support proper shell formation and minimise economic losses due to cracked or broken eggs. Achieving uniform egg size and consistent production was identified as a hallmark of efficient layer management.

Complementing these discussions, Dr. Sachin Kadam (Product Executive, Venkateshwara B.V. Biocorp) elaborated on practical nutritional strategies for layers, reinforcing the significance of precise nutrient balance in sustaining production and improving egg quality.

A major highlight of the programme was the introduction of EGGXTRA 5% Composite Premix, a specialised nutritional solution developed for commercial layer operations. Formulated to support sustained egg production and superior egg quality, EGGXTRA 5% ensures the consistent delivery of essential nutrients required for optimum flock performance. The premix is designed to address the nutritional requirements of birds across all phases of production through a phase-feeding approach, recognising that nutrient demands vary during the pre-lay, peak production, and late-lay periods. By catering to these stage-specific needs, EGGXTRA 5% helps maintain productivity, improve egg quality, and support flock health throughout the laying cycle. An additional advantage of the premix is its flexibility, enabling farmers to utilise locally available feed ingredients, thereby making feed formulation more practical and cost-effective. The Venkateshwara B.V. Biocorp nutrition team also showcased its capability in developing customised, farm-specific feed formulations tailored to individual production goals and resource availability. Such solutions enable producers to optimise feed efficiency, control input costs, and enhance profitability without compromising performance.

Through initiatives such as Venworld Connect, Venkateshwara B.V. Biocorp continues to reinforce its commitment to advancing poultry nutrition through science, innovation, and farmer-centric solutions.

VIP's 3rd National Symposium Defines the Future of Indian Poultry

Vets in Poultry (VIP), the country's premier association of poultry veterinarians with over 1700 members, organised its 3rd National Symposium in Bengaluru on 11th June 2026.

Centered around the theme "Future Ready Poultry: Managing Risks, Maximizing Resilience", the symposium focused on strengthening the resilience, sustainability, and global competitiveness of the Indian poultry industry amid an increasingly complex operating environment.

Welcoming delegates, Dr. C.B. Pathak, Vice President, VIP, highlighted VIP's evolution into a dynamic technical platform dedicated to advancing poultry science, promoting veterinary excellence, and supporting industry development. He emphasised the need for collective action and knowledge-driven partnerships to address emerging challenges and unlock new avenues for growth.

Dr. Santosh Ire, Secretary, VIP, reflected on the organisation's journey as a national professional body committed to empowering poultry veterinarians through continuous learning, scientific advancement, networking, and the dissemination of technical knowledge.

In his presidential address, Dr. Ajay Deshpande, President, VIP, observed that the poultry sector stands at a critical juncture where innovation, effective risk management, and collaboration will determine future success. He stressed that building resilience across the value chain is imperative to navigating evolving disease threats, shifting market dynamics, changing consumer expectations, and rapid technological transformation.

Delivering the keynote address, Prof. (Dr.) K.C. Veeranna, Vice-Chancellor, Karnataka Veterinary, Animal and Fisheries









Sciences University, underscored the crucial role of education, research, and innovation in shaping the future of the poultry sector. He called for stronger academia-industry partnerships, enhanced skill development initiatives, and the accelerated adoption of emerging technologies to drive sustainable growth.

In his special address, Prof. (Dr.) P.K. Shukla, President of the Indian Poultry Science Association, Chairman of FSSAI Scientific Panel-13, and former Joint Commissioner (Poultry), Government of India, emphasised the importance of science-based decision-making, robust biosecurity frameworks, quality assurance systems, and enabling policy support to enhance India's competitiveness in the global poultry landscape.

The Chief Guest for the day, Arjun Devaiah Theethamada, CEO of Abhimanyu Academy, South Asian Games Gold Medallist, and nine-time National Champion, inspired the audience by drawing powerful parallels between competitive sports and entrepreneurship. He highlighted resilience, discipline, adaptability, and a commitment to continuous learning as the defining attributes required for sustained success in a rapidly evolving world.

An interesting part of the day's proceedings was the declaration of the results of the 1st National Short Video Competition organised by VIP to provide students a platform to communicate the importance of protein awareness in innovative and impactful ways. The competition encouraged participants to raise awareness about protein security and underscore the role of chicken and eggs as affordable, nutritious, and high-quality protein sources.

Kankatav Siddheshwar Dinkar	Rs. 25,000
Chilkuri Manish Reddy	Rs. 20,000
Kumari Sanjana	Rs. 15,000
Ishan Barik	Rs. 15,000

Winners of the competition were:

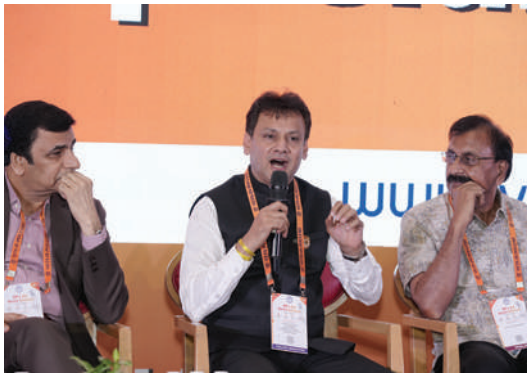
Special Recognition was awarded to Shiva Holikeri.

Expert-led sessions at the symposium explored the key challenges, opportunities, and innovations defining the future of the poultry sector:

- Future of Indian Poultry – Growth, Markets & Trade: K.G. Anand, General Manager, Venkateshwara Hatcheries Pvt. Ltd.
- Farm Productivity & Operational Excellence: Dr. Ajay Deshpande, President VIP and Founder & Director, Siddhivinayak Poultry Breeding Farm and Hatcheries, Pvt. Ltd.
- Consumer Perception, Branding & Market Expansion: Sameer Agarwal, Managing Director, Shalimar Group
- Poultry Health, Biosecurity & One Health: Dr. Gowthaman V, Associate Professor, Veterinary College and Research Institute, Salem
- Human Capital & Industry Transformation: Ashok Kumar, Managing Director, MAA Integrators








One of the most compelling highlights of the symposium was the panel discussion, "Future Ready Poultry – From Survival to Scale," moderated by Prof. (Dr.) P.K. Shukla. The session brought together distinguished leaders from across the poultry value chain to deliberate on the industry's pathway to sustainable growth, covering critical themes such as profitability, exports, innovation, biosecurity, scalability, and long-term resilience.

A strong consensus emerged from the discussion: the future of Indian poultry will be driven by science-based management practices, resilient supply chains, technology-enabled operations, farmer empowerment, skilled human resources, and deeper collaboration across stakeholders.

The panellists noted that while the industry has consistently demonstrated its ability to adapt and overcome challenges, the next phase of growth will require a greater emphasis on data-driven decision-making, sustainable nutrition solutions, enhanced traceability, robust disease surveillance systems, and alignment with evolving global standards. They stressed that building a future-ready poultry sector will depend on the industry's ability to embrace innovation while strengthening sustainability, competitiveness, and consumer trust.

Voices from the Symposium

Summarising the key takeaways, Prof. (Dr.) Ajit Ranade, Advisor, VIP, emphasised the importance of translating insights into actionable outcomes and commended the industry's readiness to embrace innovation and tackle future challenges collectively. The symposium concluded with a vote of thanks by Major (Dr.) Vinod Kumar, who acknowledged the contributions of speakers, delegates, sponsors, exhibitors, media partners, industry associations, academic institutions, and the VIP organising team.

"The future of Indian poultry depends on scientific management, policy support, biosecurity excellence and strong industry-academia collaboration. Sustainability and scalability must progress together."

Prof. (Dr.) P. K. Shukla
President, Indian Poultry Science Association, Chairman: Scientific Panel-13 FSSAI, Ex Dean, Former Registrar, Former Dean PGS, Former Joint Commissioner (Poultry), Govt. of India & Head, Dept. of Poultry Science, College of Veterinary Science and Animal Husbandry, DUVASU, Mathura

"Technology adoption and operational efficiency are no longer optional but essential for sustainable poultry growth. Integrators must focus on innovation-driven productivity."

O. P. Singh
Managing Director,
Huvepharma (SEA) Pune & ABTL

"India has immense potential to emerge as a significant poultry exporter. Quality standards, traceability and global market preparedness will be key drivers of future success."

Valsan Parameswaran
Secretary, All India Poultry Products Exporters Association,
Central Executive Committee Member, NECC &
Executive Member
Tamil Nadu Poultry Farmers Association

"The next phase of poultry development will be led by data-driven decision making, precision farming and smart production systems that improve profitability and resilience."

Dr. Vishal Singh Rawat
Managing Partner
Shweta Agritech

"Feed accounts for the largest share of production costs. Sustainable nutrition strategies and supply chain stability will play a crucial role in protecting industry margins."

T. Srinithi
Executive Director
Amrit Breeder Farms

"Strong regulatory support, disease surveillance and coordinated stakeholder efforts are essential to safeguard poultry growth and farmer confidence."

Dr. Mahesh P.S.
Joint Commissioner and Director CEAH, Bengaluru

"Farmer sustainability must remain at the centre of industry growth. A resilient poultry sector can only be built when farmers are empowered with knowledge, technology and fair returns."

Ranpal Dhanda
Managing Director
Unnat Feeds & President, Poultry Federation of India

"Feed quality and innovation will continue to shape poultry performance. The industry must focus on efficiency, sustainability and responsible resource utilisation."

Divya Kumar Gulati
Chairman
CLFMA of India

"Industry associations have a vital role in uniting stakeholders and addressing common challenges. Collective action is necessary for long-term sectoral progress."

Uday Singh Bayas
President
IPEMA/Poultry India

"Global poultry trends indicate increasing emphasis on animal welfare, biosecurity and sustainability. India must align with global best practices while maintaining competitiveness."

Dr. Jeetendra Varma
President
World VeterinaryPoultry Association

"Regional poultry sectors offer immense growth opportunities. Strengthening grassroots veterinary support and farmer education will accelerate inclusive development."

Dr. Meganathan
President
Poultry Vets Federation, Tamil Nadu

"Health management remains the foundation of poultry success. Prevention through biosecurity and proactive disease monitoring is always more effective than treatment."

Dr. Damodar Pattath
Independent Veterinary Health & Husbandry Specialist

"Consumer expectations are evolving rapidly. Innovation, transparency and science-based communication will define the future relationship between producers and consumers."

Dr. Swati Karki
Global Poultry Consultant, Vetworks

"Entrepreneurship and value-chain integration will create the next generation of poultry leaders. Agility and innovation will be critical for scaling businesses successfully."

Naveen Pasuparthy
President, KPFBA & Co-founder
Nanda Group








VIP
Pay KUMARI SANJANA
FIFTEEN THOUSAND ONLY
15000.00
2410101000628

VIP's
3rd National

JK-OX

Stabilized Chlorine Dioxide Solution-5%

Most effective & Economic solution

(for Pipeline flushing & Water sanitation)

Cost 6 paisa per bird — **Pipeline Flushing**

Cost 42 paisa per bird — **Water Sanitation**

- Highly effective & also very economical.
- Very effective at low doses.
- Very strong residual effect.
- Highly effective on broad range of pH (4-11), temperature, hardness of water.
- Highly effective even in presence of organic matter.
- Highly effective against bacteria in biofilm & free flocking bacteria.

AYUGEN® PHARMA PVT. LTD.
(An ISO 22000:2018 & GMP Certified Company)

Regd. Office: 202, "Aranya," Aamachi Colony,
Behind Venky's Express, Bavdhan Pashan Road,
Pune - 411021. Maharashtra, India.
Contact No.+91 7387006250
E-mail : info@ayugenpharma.com

For technical queries contact
our manager or head quarter
9730076216, 9730076211
9096506508, 9970863848

Pulmo-9

Scientific Blend of 9 Essential Oils

The strongest blend of 9 Essential Oils manufactured by using "PhytoResp Technology" to Combat Respiratory Issues in poultry

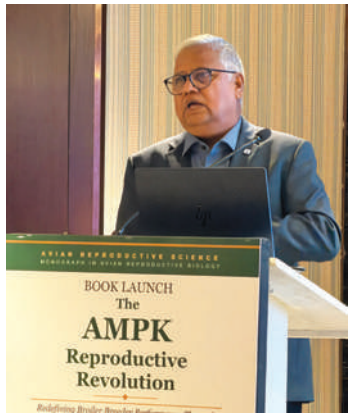
Scientifically Formulated blend of potent essential oils designed to

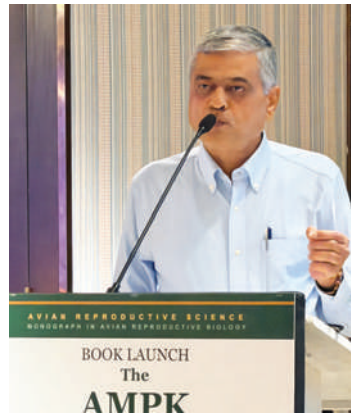
- Support Respiratory Health
- Clears Congestion
- Fight Pathogenic Microbes
- Provide immunity

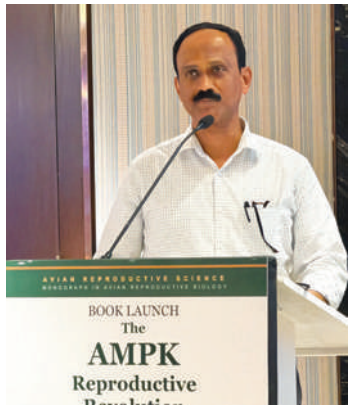
AYUGEN®
PHARMA PVT. LTD.
(An ISO 22000:2018 & GMP Certified Company)

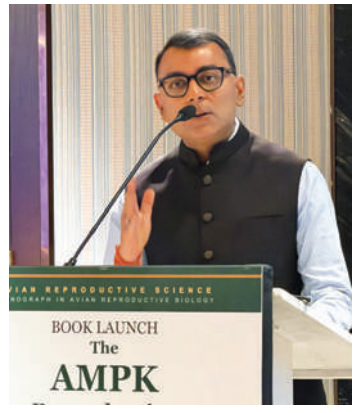
Regd. Office: 202, "Aranya," Aamachi Colony, Behind Venky's Express, Bavdhan Pashan Road, Pune - 411021. Maharashtra.
Customer Care No.9730076211/ 9730076216 (Technical Manager)
E-mail : info@ayugenpharma.com

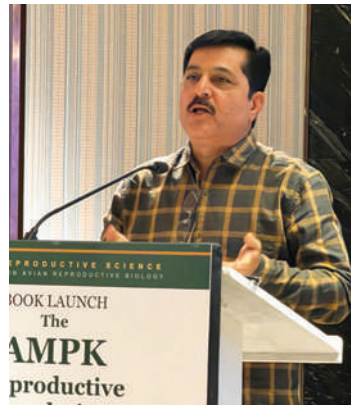
Igniting Scientific Dialogue on the Future of Breeder Performance











In an exclusive gathering of some of the poultry industry's most respected minds, industry leader, Dr. Pradip Linge introduced his latest book, *AMPK Reproductive Revolution*, during an intimate scientific roundtable held on 10th June, 2026 at Bengaluru.

The event brought together a select group of experts, breeders, researchers, and decision-makers from across the poultry industry for an evening dedicated to scientific exchange and intellectual dialogue. Designed as more than a conventional book launch, the gathering served as a platform to explore emerging ideas, challenge existing paradigms, and discuss the future of reproductive efficiency in modern breeding systems.

The conversation curator for the evening, Dr. Jeetendra Varma, President, World Veterinary Poultry Association (WVPA) welcomed the distinguished gathering emphasising that the occasion was far more than a formal book pre-launch. It was envisioned as an intimate scientific roundtable designed to stimulate meaningful discussions on poultry metabolism, reproductive biology, and the factors influencing embryo development and chick quality.

In the first scientific session tiled "Broiler Breeder Metabolism: The Hidden Driver of Reproductive Consistency", Dr. Nikita Deshmukh emphasised that variations in breeder performance and chick quality often stem from hidden metabolic imbalances rather than visible indicators. She noted that hens may appear healthy while being metabolically compromised, affecting egg production, fertility, hatchability, and chick quality. Highlighting the liver as the breeder hen's "metabolic heart," she explained its critical role in reproduction and energy regulation. Stressors such as over-conditioning, heat stress, and nutritional inconsistencies can exacerbate metabolic dysfunction. She advocated moving



beyond conventional monitoring to include metabolic profiling and highlighted AMPK as a key energy regulator, urging producers to establish flock-specific metabolic benchmarks to optimise performance.

Addressing the gathering on the theme "Embryonic Development as a Reflection of Breeder Metabolic Health", Dr. Sujit Menon underlined a profound truth about the poultry industry: what appears to be a simple process of producing chicks is, in reality, an intricate interplay of genetics, metabolism, management, and precision technology. He explained that the poultry sector enjoys a unique biological advantage. Unlike mammals, the entire embryonic development of a chick takes place outside the mother's body, allowing the industry to influence outcomes through careful control of breeding, incubation, and hatchery practices. Behind every egg lies years of genetic selection and breeding work aimed at producing birds that meet increasingly demanding standards of productivity, uniformity, traceability, and predictability. Dr. Menon stressed that embryonic development is highly sensitive to metabolic and environmental influences. Central to this process is AMPK, a cellular energy sensor that regulates the balance between growth and survival. When embryos encounter stress whether due to temperature fluctuations, compromised breeder health, nutritional deficiencies, or poor maternal liver function—AMPK redirects energy away from development towards survival, potentially affecting organ formation, hatchability, and long-term chick performance. He also highlighted the growing importance of monitoring breeder health, particularly fatty liver syndrome and gut integrity, which can silently impair reproductive efficiency and progeny quality. Advances in sensor technologies, artificial intelligence, and incubation analytics now enable real-time interventions, allowing hatcheries to optimise conditions, improve chick quality, and enhance flock performance. Precision, he concluded, will define the future success and sustainability of the poultry industry.

This was followed by a moderated industry discussion anchored by Prof. (Dr.) P. K. Shukla. Participants included:

- Dr. Harsha Kumar Shetty
- Dr. Nabakrushna Praharaj
- Mr. Sameer Agarwal
- Dr. S. Ravinder Reddy
- Dr. Ajay Deshpande
- Dr. Avinash Dhawale
- Dr. Rais Rajpura
- Dr. Ravindra Jaiswal

Prof. (Dr.) Shukla observed that while the topic of cellular energy metabolism appeared novel, it was fundamentally a return to the basics. In the pursuit of progress, the industry often overlooks foundational principles such as ATP generation, glycolysis and energy balance. The concept of "smart energy management" reminded participants that productivity ultimately depends on maintaining the right balance of energy within the bird.

The discussion then shifted to the realities of breeder management. Dr. Praharaj noted that modern genetics has already equipped birds with extraordinary production potential. The challenge today is not genetics, but creating the right environment to express that potential. Nutrition, biosecurity, housing, stress control and management practices must work together to optimise performance.

Dr. Harsha highlighted the significant stress imposed on breeder birds through feed restriction, repeated vaccinations and frequent handling, all while maintaining strict targets for body weight, flock uniformity and peak production. Despite these pressures, Indian farm managers consistently achieve results close to the birds' genetic potential, a testament to their expertise.

From a commercial perspective, Samir Agarwal identified biosecurity, feed ingredient variability, climate change and labour shortages as the industry's most pressing practical challenges. He stressed that when the basics are executed correctly, the bird invariably rewards the producer.

Other panellists emphasised collective biosecurity, careful egg handling and the importance of frequent egg collection to improve hatchability. Uniformity was described as the cornerstone of breeder success, beginning from day-old chick placement through regular weighing and grading. A major theme throughout the discussion was the emerging importance of cellular energy metabolism. Speakers highlighted that every physiological process—from immunity and reproduction to fertility and embryo development—depends on ATP availability. Supporting cellular energy may represent the next frontier in breeder nutrition and productivity enhancement. Looking ahead, the panel identified climate change, labour availability and nutritional precision as key future challenges. At the same time, they recognised the





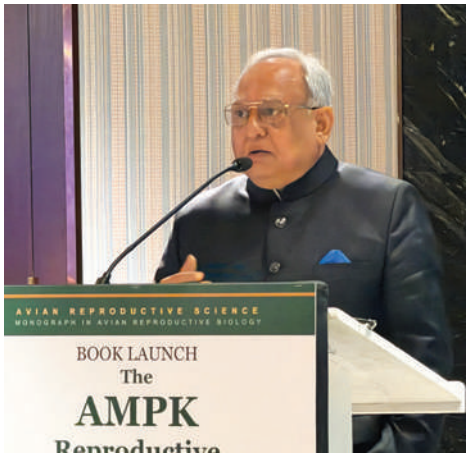

opportunities that exist through scientific innovation, improved management and expanding poultry consumption. The session concluded with the consensus that while technologies continue to evolve, sustainable breeder performance will always depend on mastering the fundamentals: understanding the bird, minimising stress and translating science into practical solutions.

Distinguushed guests of the evening – M.R.I. Magdum, K.G. Anand, Dr. Ajay Deshpande, Prof. (Dr.) P. K. Shukla, Sameer Agarwal and Dr. Ravindra Jaiswal were accorded a special felicitation.

Addressing the gathering, Dr. Pradip Linge highlighted that modern poultry breeding presents a paradox: while birds have achieved exceptional productivity, they have also become increasingly vulnerable to biological and environmental challenges. He noted that traditional approaches to biosecurity and flock management are no longer sufficient, as even genetically similar flocks raised under identical conditions can show marked differences in performance. In breeder operations, seemingly small variations in production can translate into significant economic losses. He explained that the focus of his book is to understand the biology of the breeder bird, particularly the role of AMPK in energy regulation and metabolic resilience. Although AMPK is not a new discovery, its relevance has grown in today's production environment, where optimising energy partitioning can help reduce vulnerabilities and improve consistency in performance. Dr. Linge further emphasised that the book is not a collection of standard operating procedures or formulae. Instead, its 25 chapters explore the biological principles underlying breeder performance and provide insights for professionals ranging from field veterinarians to boardroom decision-makers.

Reflecting on his career-long efforts to simplify emerging scientific concepts, Dr. Linge also shared plans for a comprehensive compendium on probiotics. He dedicated the work to the memory of his father, a second-generation veterinarian whose constant question—whether science would ultimately benefit farmers—continued to guide his professional journey.

In closing, he acknowledged with deep appreciation the encouragement and guidance of Dr. Chin, Dr. Sujit Menon and all those who had contributed to shaping his career over the years.



Lumis Enzymes at SIPSA-FILAHA 2026

Lumis Enzymes participated in the recently organised SIPSA-FILAHA 2026, Africa's largest trade exhibition dedicated to livestock, agriculture, and agricultural equipment, held in Algeria.

The event brought together leading companies, innovators, industry experts, and key decision-makers from across the agricultural and livestock value chain. Through exhibitions, technical forums, and conferences, SIPSA-FILAHA 2026 highlighted cutting-edge technologies, sustainable solutions, and emerging trends shaping the future of the industry.

Lumis Enzymes attracted strong interest from feed manufacturers, distributors, integrators, and livestock professionals representing both African and international markets. Visitors engaged in productive discussions on the role of advanced enzyme technologies in improving animal nutrition, enhancing feed efficiency, and supporting sustainable livestock production.

Lumis Enzymes' innovative portfolio of enzyme solutions generated significant attention among industry stakeholders seeking high-performance, cost-effective, and environmentally responsible feed solutions and the exhibition provided an excellent platform to showcase Lumis Enzymes' commitment to driving efficiency and sustainability across the animal nutrition sector.

Powering Natural Protection– PhyMune Unveiled

PhyGeno, a division of Avitech Nutrition, has introduced PhyMune, an innovative plant-based immunomodulator aimed at strengthening the health and resilience of poultry and livestock. Launched on 14th April at the company's quarterly sales meeting, PhyMune harnesses the power of phytogenic compounds to support the animal's innate immune system.

By enhancing natural defence mechanisms, PhyMune helps livestock cope more effectively with environmental stress, pathogenic challenges, and production-related pressures.

PhyMune

- Regulates key immune pathways whilst enhancing both innate and adaptive immune systems
- Improves vaccine-induced antibody production for stronger disease protection
- Supports consistent body weight gain and higher production efficiency (EPEF)
- Reduces the impact of stress-related immunosuppression in commercial poultry systems

According to the company, PhyMune offers a natural and effective solution to the growing disease challenges confronting modern poultry and livestock production systems.

Announcement

Ecolex Animal Nutrition Appoints Regional One Health Solutions Director

Ecolex Animal Nutrition announced the appointment of Dr. Loi Chia Fei as its Regional One Health Solutions Director, effective June 2026. The creation of this role underscores Ecolex's commitment to evolving beyond a traditional product supplier into a trusted, science-driven partner delivering integrated solutions that advance the health of animals, people, and the planet - the very essence of its One Health philosophy.

Dr. Loi holds a Doctor of Veterinary Medicine (DVM) degree from Universiti Putra Malaysia and brings more than 15 years of experience in food animal health and nutrition, with extensive expertise in poultry nutrition and regional commercial leadership. He began his career in food animal practice and product management, working with leading principal companies in Malaysia and Singapore, before building a distinguished track record in the poultry industry through technical, veterinary, and commercial roles at Cargill Feed & Nutrition and CJ Bio.

What distinguishes Dr. Loi is his proven ability to cultivate and sustain strategic partnerships across diverse markets. Through successive regional leadership positions at Eastman Chemical, Manuka Biotech, and CJ Bio, he has developed and managed distributor and partner networks spanning more than 18 countries across Southeast Asia, South Asia, the Middle East, and Northeast Asia.

This unique blend of veterinary expertise, deep understanding of poultry nutrition and animal health, and extensive experience in building high-performing commercial ecosystems across the Asia-Pacific region makes Dr. Loi exceptionally well positioned to lead Ecolex's One Health Solutions agenda. In his new role, he will work closely with producers, nutritionists, distributors, and industry stakeholders to translate Ecolex's science-backed portfolio into integrated solutions that address the interconnected challenges of animal performance, biosecurity, and sustainable production, helping create a more resilient and responsible food system.

Speaking on this appointment, Edward Manchester, Global Business Development Director, Ecolex Animal Nutrition said, "The One Health approach is not a concept we simply endorse — it is the framework through which we believe animal agriculture must evolve. Dr. Loi's veterinary foundation, combined with his proven ability to build commercial impact across Asia Pacific, gives him a rare ability to translate One Health thinking into real outcomes for our customers and partners. I am genuinely excited to have him on board. Together, I believe we can move from advocacy to action at a scale that makes a meaningful difference for the industry."

Dr. Loi commented, " I am excited to join Ecolex at such a pivotal moment. The One Health framework is not just a brand narrative — it is the most meaningful lens through which we can serve the animal nutrition industry. I look forward to working with our partners across the region to demonstrate how science-led nutrition can create real, measurable impact for animals, producers, and communities."

Announcement

Optima Life Sciences Acquires Cure Medicines India

Optima Life Sciences recently announced the acquisition of Cure Medicines India Pvt. Ltd., a significant milestone in its journey to build a future-ready, integrated healthcare and life sciences enterprise.

Established in 2003 and headquartered in Pune, Cure Medicines India Pvt. Ltd. has earned a strong reputation as a trusted pharmaceutical manufacturing company, offering a broad portfolio of allopathic formulations across multiple therapeutic segments. With expertise in formulation development, manufacturing excellence, and robust quality systems, Cure Medicines brings valuable capabilities that further strengthen Optima's growing healthcare ecosystem.

The acquisition is closely aligned with Optima's long-term growth strategy of expanding its presence across human and animal health, enhancing backward integration, and driving innovation-led value creation. By combining complementary strengths, the partnership is expected to accelerate product development, improve operational efficiencies, and create new opportunities for sustainable growth in both domestic and international markets.

The strategic considerations for the acquisition include:

- Portfolio Expansion: Strengthening presence in pharmaceutical formulations
- Manufacturing Capability: Access to robust infrastructure and technical know-how
- Market Synergy: Unlocking new customer segments and cross-market opportunities
- Future Growth: Building an integrated platform across health, nutrition, and therapeutics

This acquisition marks the beginning of a transformative new chapter—one that brings together science, scale, and strategic vision to drive the next phase of growth and innovation in healthcare.

"At Optima, we have always believed in building for the long term—with a clear focus on science, quality, and impact. The acquisition of Cure Medicines is a natural extension of that vision. What stands out to me is the strong foundation that the Cure team has created over the years. We see immense potential in combining their capabilities with Optima's strategic direction to build a scaled, future-ready healthcare platform. This is not just about growth—it is about creating enduring value."

Vinay Kulkarni
Executive Chairman, Optima Life Sciences

"Over the years, we have built Cure Medicines with a strong commitment to quality, reliability, and customer trust. We are proud of what we have created. Joining hands with Optima Life Sciences gives this legacy a powerful platform for scale and future growth. I am confident that under Optima's leadership, the company will reach new heights while staying true to its core values."

Ulhas Puranik
Director, Cure Medicine

"Our customers operate in an environment that is constantly evolving, shaped by changing healthcare needs, scientific advancements, and rising expectations around quality and innovation. At Optima, our commitment is to stay ahead of these shifts and continue delivering solutions that create meaningful value. The acquisition of Cure Medicines strengthens our ability to serve customers with a broader portfolio, enhanced capabilities, and greater agility, ensuring we remain a relevant and trusted partner for the future."

Dr. C.V. Chandrasekaran
Sr. Vice President - Sales, Optima Life Sciences

"This acquisition is not just an expansion—it is a strategic step towards building a more integrated, innovation-driven organisation. Cure Medicines brings strong manufacturing capabilities, formulation depth, and a diversified product portfolio that perfectly complements Optima's growth ambitions. Our focus will now be on unlocking synergies across R&D, manufacturing, and market access to create differentiated value for our customers."

Dr. Arindam Chatterjee
Vice President-Strategy, Marketing & Technology, Optima Life Sciences

"This transaction has been underpinned by a rigorous and multi-layered due diligence process spanning financials, compliance, manufacturing systems, and operational sustainability. Our focus was not just on validating current performance, but on assessing the robustness of systems and the scalability of the business. The strength and transparency we observed in Cure Medicines gives us high confidence in the long-term value creation potential of this acquisition."

Vikrant Mahajan
GM - Finance & Accounts, Optima Life Sciences

"This acquisition was executed through a structured and meticulous legal process, with a strong emphasis on regulatory compliance, risk mitigation, and transaction clarity. It was a pleasure partnering with the Optima team, whose strategic intent and execution discipline enabled a smooth and well-governed transaction. We believe this deal sets a strong foundation for scalable and compliant growth going forward."

Vivek Sadhale
Co-Founder, Legalogic Consulting

Hitech's

Creating Values

Poultry of the Highest Quality!

HITECH HATCH FRESH PRIVATE LIMITED

Metropolitan Co-Operative Housing Society Ltd., Sector - B, Plot No. - 28, Canal South Road, Kolkata - 700 105

Ph. : 91-33-40638301 | Fax : 91-33-40638315 | E-mail : hitechhatchfresh@rediffmail.com | Website : www.hitechhatchfresh.com

Integration Office :

BHALUKA • NATAGARH • KATWA – 9734148253 | BASIRHAT – 03217 263744 | BADURIA – 033217 238444

BURDWAN • BHATAR • SURI • SALAR • PLASSEY • BANKURA – 8582891213 | BHADRESHWAR (HOOGHLY) • MALDA • BARUIPUR – 2633 6973, 9903614062

Ayu-chick®

Super Hydrating Nutritive Gel for Day Old Chicks

(Fortified with Energy, Electrolytes, Probiotics, Essential Nutrients, Immunostimulants & Gut health enhancers)

• Strong Foundation • Hydrate • Nourish • Enrich

Advantages:

- Stimulates feed intake at start
- Helps prevent dehydration
- Provides readymade energy
- Provides essential nutrients for growth
- Provides immunity
- Stimulates early gut protection and health
- Encourages early feed intake
- Supports yolk reabsorption

Purpose & Benefits:

- Stronger chicks
- Initial hydration of chicks, better start, lower mortality & prevents weight loss during transportation to the farm
- Better homogeneity
- Better weight from first week till final culling
- Reduced mortality
- Better FCR

AYUGEN® PHARMA PVT. LTD.
(An ISO 22000:2018 & GMP Certified Company)

Regd. Office: 202, "Aranya", Aamachi Colony,
Behind Venky's Express, Bavdhan Pashan Road,
Pune - 411021. Maharashtra.
Customer Care No. 9730076211/9730076216
E-mail : info@ayugenpharma.com

SEN

Touching Lives

Celebrating 75 Years of Excellence in Poultry Industry

Sen Group, one of Eastern India's oldest and most trusted poultry house, has been a cornerstone of the industry for 75 years. As a pioneering value-driven organization, the Group encompasses poultry farming and Integrator farming, feed manufacturing, and breeder farming with day-old chicks production. Committed to excellence and social empowerment, Sen Group supports local farmers, provides employment, and ensures trust and quality through superior products and ethical practices. By fostering rural development through sustainable farming and community initiatives, Sen Group has been your trusted partner since 1950.

75 SEN SINCE 1950

West Bengal | Bihar | Uttar Pradesh | Jharkhand

Chhattisgarh | North East | Madhya Pradesh

SEN FEEDS | SEN BROTHERS PVT LTD | URBAN HI BREED FARM LTD

HI BREED AVIAN RESEARCH & INTERGRATORS | HI BREED INTERNATIONAL SALES & SERVICE

22 R.N. Mukherjee Road, Kolkata - 700001

www.senindia.co.in mail@senindia.co.in (033)40070525