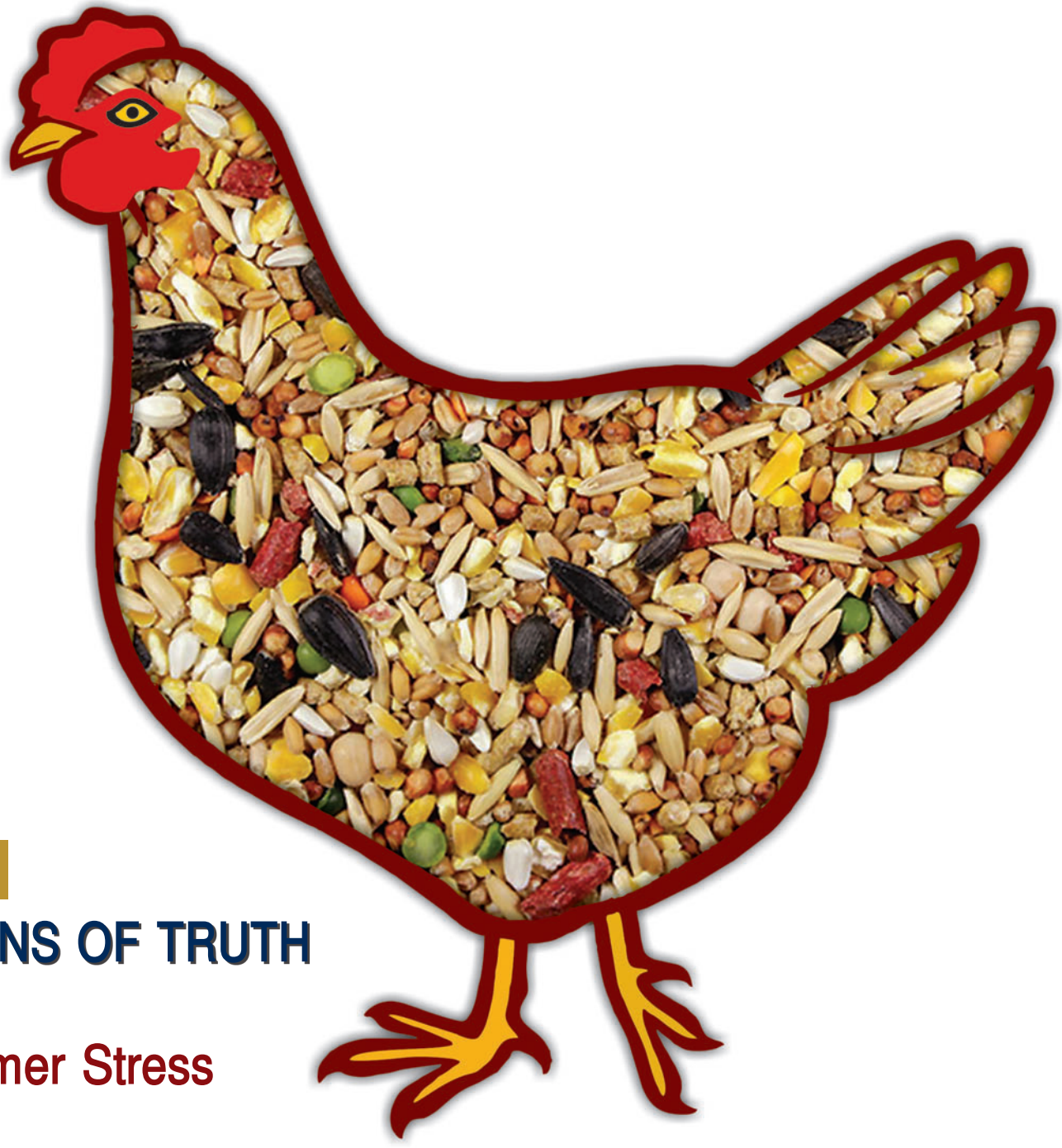
₹150
www.indianpoultryreview.com

INDIAN POULTRY REVIEW

THE MAGAZINE OF INDIAN POULTRY INDUSTRY | APRIL 2025



COVER

GRAINS OF TRUTH

ARTICLE

Summer Stress

Shalimar Group

TOTAL®

CRUNCHY MUNCHY BITES

TOTAL® NSF sona Matrix+ Sona Sixer ADYA PURE FRESH TASTY Matrix Total Eco TOTAL Gold® Health & Happiness... TOTAL DAILY CHICKEN

Registered Office:17A, B & C "Everest", 46C Chowringhee Road, Kolkata - 700071 Ph: 033 4017 9000 | Fax: 033 2288 2496
Corporate Office: 9, A. J. C. Bose Road, Ideal Centre, 2nd Floor & 5th Floor, Kolkata - 700017 Ph: 033 40543200 | 033 4023 9000
www.shalimarcorp.in

ROSS 308 AP

With the ROSS 308 AP YOU GET MORE THAN JUST A BREED

Aviagen's® Ross® 308 AP continues to deliver increasingly better performance year-after-year for both our breeders and broilers.

Thanks to the superior meat yield, quality, texture, and tenderness of the Ross 308 AP, combined with our best PAN India free technical support for our customers, makes it the preferred choice.

Aviagen India
Poultry Breeding Company
Private Limited

+91 4252 233 650
info@aviagen.com
www.aviagen.com

BREEDING SUCCESS TOGETHER

Aviagen® India | ROSS

GLAMAC
COURAGE TO REACH HORIZON
ISO 9001-2015 Certified Company

Say no to
AGP &
HALQUINOL

Certified By NABL Lab
ANTIBIOTIC FREE

CYNKA® HBR
CYNKA® HBR 50

R & D Excellence... born with Research & Technical Trials

Antidiarrhoeal • Antimicrobial • Gut Health Modulator

- Looking for an alternative to Antibiotics (AGP) & Halquinol?
- Looking for a solution to *E.coli*, Salmonella, Digestive Disorders & Loose Droppings ?

Seeing is believing
Try CYNKA® HBR
CYNKA® HBR 50

Awarded as
"Veterinary Pharma Innovation of the year"
By The Economic Times (2024)

25 Kg

Nature's blend for
Healthy Gut Healthy Bird

ET THE ECONOMIC TIMES
AWARD WINNER

For more information please contact:
Glamac International Pvt. Ltd.
413, Orion Business Park, 4th Floor, Kapurbawadi
Ghodbunder Road, Thane (W)- 400610, Mumbai, India.
• www.glamac.com • Email: info@glamac.com, sumon@glamac.com
• Dr. Sumon Nag Chowdhury: +91 9051512590

CONTENTS

INDIAN POULTRY REVIEW
www.indianpoultryreview.com
THE MAGAZINE OF INDIAN POULTRY INDUSTRY
Volume 59 | Issue 09 | April 2025

MANAGING EDITOR : G. N. Ghosh
EXECUTIVE EDITOR : Sanjoy Mukerji
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
Cover Courtesy: iStock

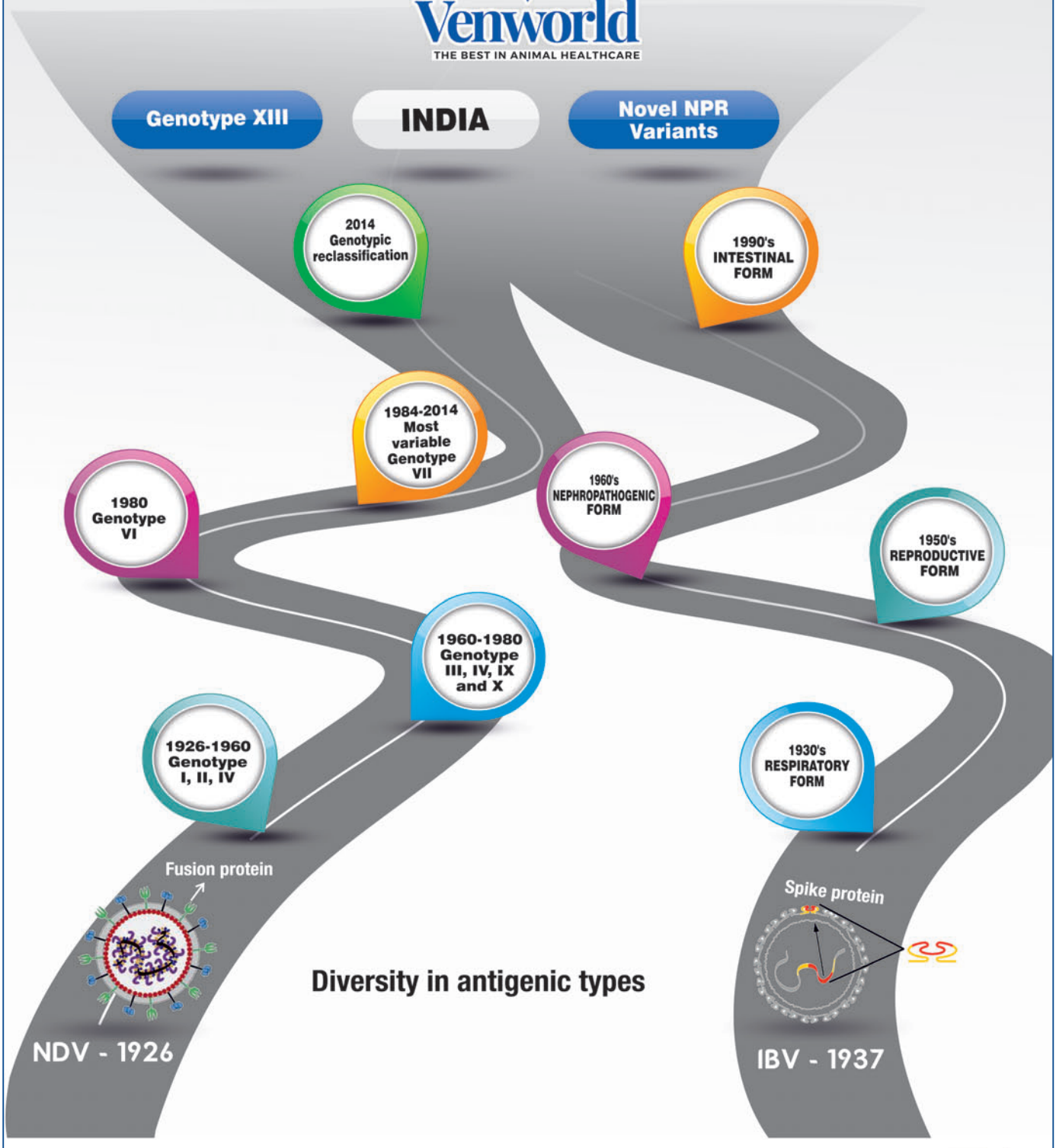
Edited and Published by G.N. Ghosh from 57-B, Townshend Road, Kolkata-700025 and printed by G.N. Ghosh at Salmoli Publication, 57-B, Townshend Road, Kolkata - 700025

VH NEWBRO-MN

NEWCASTLE DISEASE AND AVIAN INFECTIOUS BRONCHITIS VACCINE INACTIVATED

Venworld®

THE BEST IN ANIMAL HEALTHCARE



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

POULTRY KNOWLEDGE ADVANCEMENT: PROGRESS AND PARTICIPATION

The year 2024–25 can rightly be called a progressive year in the realm of poultry education and knowledge dissemination. From academic conferences and symposia to podcasts and policy roundtables, the poultry ecosystem saw vibrant participation from researchers, scholars, and entrepreneurs. These platforms not only showcased pioneering research and innovative ideas but also served as a stage for professional acknowledgment and exchange of ideas critical to the sector's future.

Yet, one must not assume that every research presentation contributes ground-breaking insights or solves pressing industry challenges. The true value of these gatherings often lies in their ability to inspire, educate, and steer the community toward sustainable progress. It is in the rigour of method, the exchange of perspectives, and the intent to learn that lasting change begins.

However, it remains a matter of concern that participation from key stakeholders, particularly poultry producers, continues to be selective and, at times, perfunctory. Without serious engagement from those at the ground level, the transformative potential of such knowledge-sharing fora remains underutilised. If the sector is to grow equitably and sustainably, it must encourage broader, more meaningful involvement across the value chain.

This need was underscored at a recent international poultry conference themed 'Sustainable Poultry Development Goals' (SPDGs). The event offered a unique lens into how nations are measuring progress towards SPDGs, particularly through the prism of governance and administration. One key takeaway was clear: no agricultural sector, poultry included, can advance through policy alone. Bureaucratic structures, while necessary, cannot substitute for grassroots action and stakeholder empowerment.

It is time to acknowledge that the future of poultry development hinges on the active integration of stakeholders—not merely as beneficiaries, but as decision-makers and change agents. The industry must adopt a more inclusive model where producers, especially those in rural and underserved areas, are equipped with the tools, knowledge, and authority to shape their own growth trajectories.

This begins with sensitisation. Conversations around health, sanitation, water access, education, and profitability must take centre stage. But beyond awareness, the sector must embrace professionalism at every level—because only through responsible, informed, and community-driven action can we hope to realise the full potential of the poultry sector.

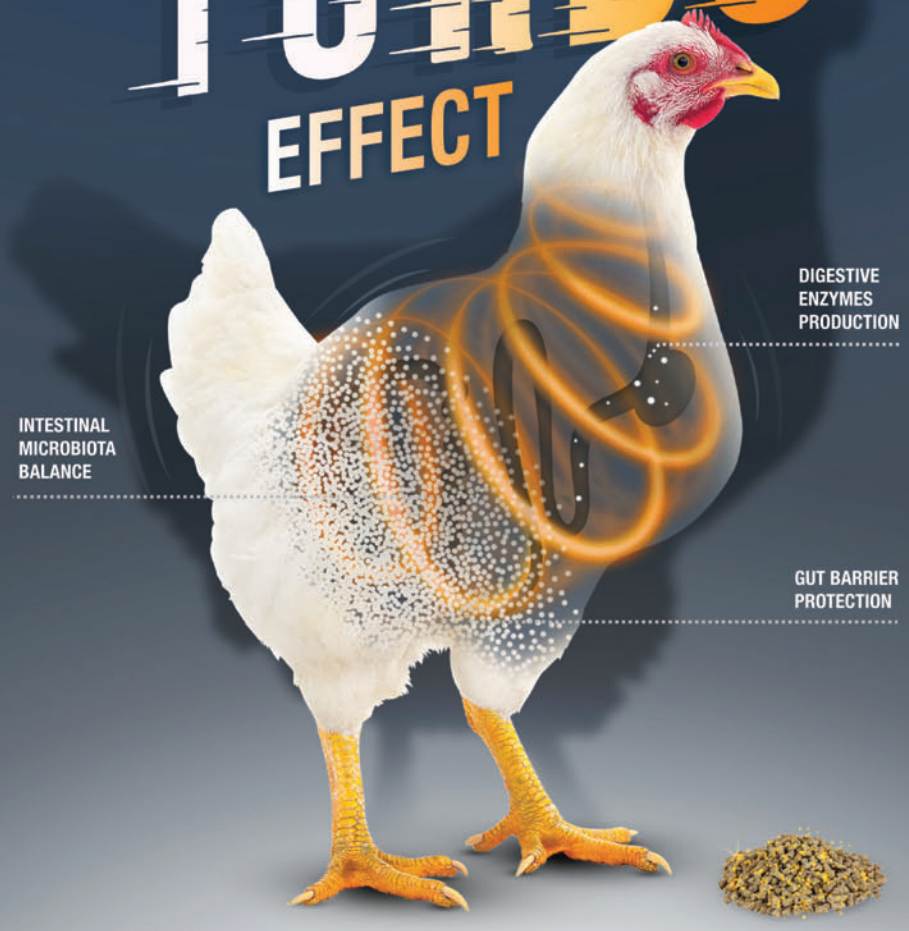
The path to transformation is not paved by policy alone. It is carved by people—empowered, engaged, and equipped to lead.

G. N. Ghosh
Managing Editor

Unique Probiotic Strain for Commercial Broilers

Venworld
THE BEST IN ANIMAL HEALTHCARE

TURBO EFFECT



PUMIPRO™

Bacillus pumilus NCIMB 30362

HIGHLY THERMOSTABLE

- NEW BACILLUS PUMILUS STRAIN
- HIGH ENZYMATIC ACTIVITY ESPECIALLY ON LIPASES
- HIGH CAPACITY TO SECURE GUT AND INCREASE FEED EFFICIENCY
- SOLUTION STRONGLY AIMED TO OPTIMIZE FEED COST
- SAFE STRAIN : QPS / GRAS COMPLIANT

Better FCR.

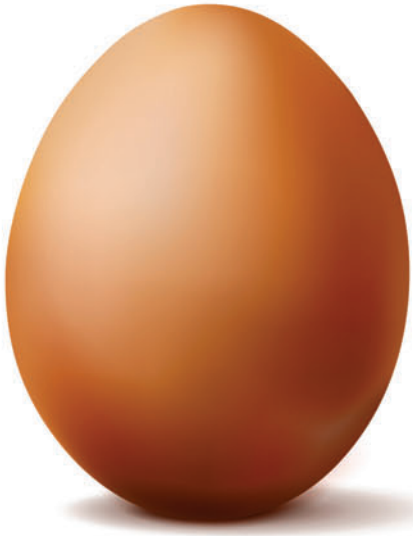
Better Viability.

Better Economical Gain.

VENKATESHWARA B.V. BIOCORP

VENKATESHWARA B.V. BIOCORP PRIVATE LIMITED
(An ISO 9001:2015, OHSAS 18001:2007 & GMP Certified Company)
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

Indian Research

Effect of Dietary Zinc and Copper Levels on Haematology, Antioxidant Enzymes, Lipid Profile and Immune Response in Aseel Chicken

By
Murali, P., P. Vasanthakumar*, A. Natarajan, A. Balasubramaniam and T. Vasanthakumar
Tamil Nadu Veterinary and Animal Sciences University Department of Animal Nutrition, Veterinary College and Research Institute, Namakkal 637002
Email: drpvknkl@gmail.com

To assess the influence of dietary zinc and copper levels on anti-oxidant enzymes, lipid profile and immune response in Aseel chicken, one-day-old Aseel chicks (n=192) were assigned to four treatment groups in a 2 × 2 factorial design, with two levels (mg/kg) of copper -12 & 24 and two levels of zinc - 80 & 160 in the diet. T1 - Basal diet with 12 ppm Cu and 80 ppm Zn, T2- Basal diet with 24 ppm Cu and 80 ppm Zn, T3-Basal diet with 12 ppm Cu and 160 ppm Zn and T4-Basal diet with 24 ppm Cu and 160 ppm Zn. The basal diet contained 21% crude protein, 2900 kcal of ME per kg, 0.8% calcium and 0.3% non-phytate phosphorous. At the end of sixteen weeks, two birds (one male and one female) from each replicate were randomly selected (total male-6, female-6) and slaughtered. Blood was collected for haematology and serum was separated for lipid profile, anti-oxidant enzymes &immune status assessment. Data collected on various parameters were statistically analysed by factorial method using SPSS 20th version. PCV (25.42% to 27.08%), Hb (11.28 to 12.14 g/dl), serum total protein (3.32 to 3.64 g/dl), albumin (2.08 to 2.25 g/dl) and globulin (1.10 to 1.53 g/dl) levels did not vary significantly across the treatment groups. Copper at both 12 and 24 ppm did not alter the serum lipid profile.

However, Zn at a higher concentration of 160 ppm had a significantly ($P<0.01$) low serum cholesterol (125.79a ± 3.54 vs 111.63b ± 2.53), triglycerides (69.54a± 2.57 vs 43.83b± 2.33) and VLDL cholesterol (13.91a ± 0.51 vs 8.77b ± 0.47) levels as compared to 80 ppm. The mean serum levels of SOD (18.11 to 19.36 U/ml), GPx (113.04 to 142.25 U/ml) and catalase (4.55 to 4.89 U/ml) were observed. Zinc at 160 ppm increased the SOD and GPx levels as compared to 80 ppm, but did not affect the catalase levels. Mean HI titre values (log2) against Newcastle Disease was 6.58, 6.83, 7.67, and 7.75 for T1, T2, T3, and T4 groups, respectively. CHST measurements (µm) after 48 hours were 500.83, 527.50, 587.50, and 633.33, respectively. Zinc at 160 ppm had a significant impact on HI titre (6.71a ± 0.20 vs 7.71b ± 0.29) and CHST (514.17a± 18.56 vs 610.42b± 16.71) values as compared to 80 ppm.

No significant interactions were observed between copper and zinc with respect to above-mentioned parameters. From this study, it can be inferred that 160 ppm of dietary zinc in the diet of Aseel chicken up to 16 weeks of age significantly improved the serum anti-oxidant enzymes, lipid profile and immune response in Aseel chicken.

Effect of Supplementation of Onion Peel Powder - A Herbal Feed Additive on Growth Performance, Nutrient Digestibility and Serum Biochemical Parameters of Japanese Quails

By
Mujeebulla S. Md., Susmita T.*, Tirupathi Reddy E. and Raja Kishore K.
Sri Venkateswara Veterinary University, Tirupati
Email: susmita.thullimalli@gmail.com

The present study was carried out to evaluate the effect of supplementation of onion peel powder (OPP), a herbal feed additive on performance of Japanese quail. Two-hundred-and twenty- five day-old Japanese quails were distributed randomly into five treatments with three replicates containing fifteen birds each and were fed with five experimental diets T1 (Basal diet), T2 (Basal diet + 10g/kg Onion peel powder), T3 (Basal diet + 20g/kg Onion peel powder), T4 (Basal diet + 30g/kg Onion peel powder) and T5 (Basal diet + 40g/kg Onion peel powder) from day old to five weeks of age and were maintained under uniform management conditions. All the rations were made iso-caloric and iso-nitrogenous. Feed and water were provided adlibitum.

The results of current study revealed that the mean body weights and body weight gains were significantly increased (p0.01) affected by the supplementation of OPP. Whereas, significantly better ($p<0.01$) FCR was reported at 40g/kg OPP in diet. The digestibility coefficients of DM, OM, CP, EE and CF were significantly ($p<0.01$) increased with increasing levels of OPP up to 40g/kg diet, while supplementation of onion peel powder (OPP) had no effect on NFE. The serum biochemical profile of quails revealed significantly decreased ($p<0.05$) serum cholesterol, serum triglycerides, serum LDL, serum VLDL cholesterol and serum creatinine with increasing levels of OPP.

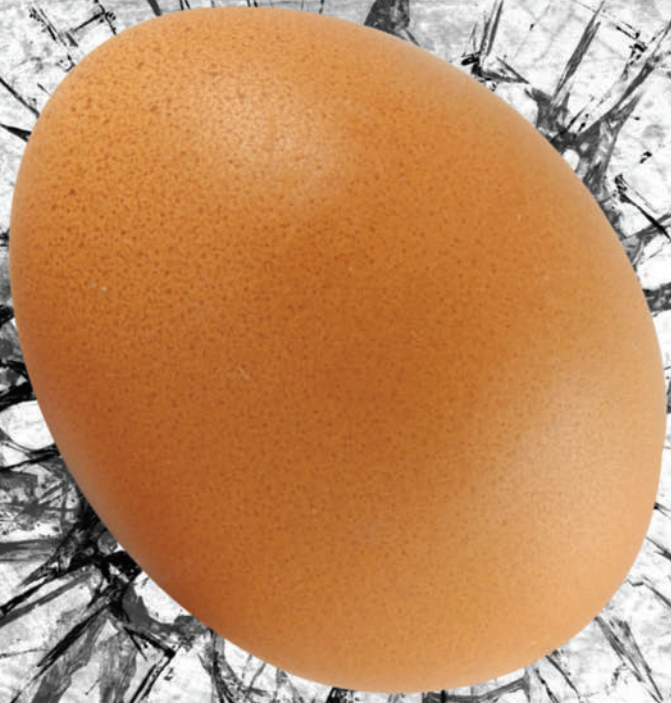
Whereas serum HDL cholesterol significantly, increased ($p<0.01$) with increasing levels of OPP. On the other hand, supplementation of OPP from 0 to 40 g/kg in the diet had no effect on serumtotal protein, albumin, globulin, glucose, A/G ratio, SGPT, SGOT, calcium, phosphorus and BUN. Thus, the present study indicated that OPP can safely be supplemented up to 40g/kg in the diet without any adverse effect on performance of Japanese quail.

Source: XXXIXAnnual Conference and National Symposium of Indian Poultry Science Association on Shaping the Indian Poultry Sector for Sustainable Growth,October 16-18, 2024

POWERSHELL™

For the strongest eggs

Calcium homeostasis through advanced gene switching molecules



- Improves Calcium absorption
- Improves egg shell strength & reduces broken eggs.
- Improves Calcium deposition in medullary bones

ZEUS® BIOTECH

www.zeusbiotech.com

For any enquiries please mail to *info@zeusbiotech.com*

IF **IMMUNITY** IS YOUR TOP **PRIORITY**

IMMUNOTECH™

The Systemic Immunity Developer

IMMUNOMODULATION

IMPROVED DRUG EFFICACY

STRESS RELIEVER

FIBRINOLYTIC

ANTI-INFLAMMATORY

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

Scan for more details

ABTL
ENZYMES • NUTRITION • TECHNOLOGY

Article

Functional Systemic Enzymes: To Shield Against Immunosuppressive disease

Sumit Sipany
Assistant Manager-Marketing
ABTL

Welcome to Nutrinomics...

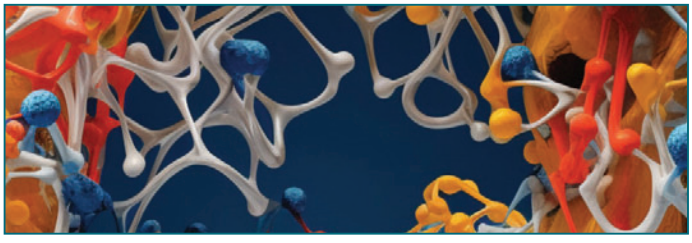
"Nutrinomics, is the merging of the nutrition and health economics disciplines to assess the impact of nutrition on animal health and disease and to illustrate the health and economic aspects of specific changes in the daily nutrition and nutrition recommendations through the lens of cost effectiveness".

Introduction to Immunity

Immunity refers to the body's ability to resist or defend against infections, diseases, and other unwanted biological invasions. There are two main types of immunity.

Innate immunity is the host's first line of defence against invading pathogens but some pathogens particularly immunosuppressive viruses have evolved sophisticated mechanisms to evade the host's innate immune responses and survive within the host. Adaptive Immunity targets specific pathogens that the body has encountered before. When the immune system fails, it can result in immunosuppression.

Immunosuppression, originally defined as "a state of temporary or permanent dysfunction of the immune response resulting from damage to the immune system and leading to increased susceptibility to disease" includes suboptimal responses in antibody production, innate and cellular immunities.



Immunosuppression is a syndrome not a disease. Several environmental factors causing immunosuppression are related to management problems such as inadequate water or food supply, nutritional deficiencies, mycotoxins, vaccinations, ammonia in the houses, excess dust, temperature stress, social interactions within a flock, and Infectious agents such as IBV, IBH, CIAV and Marek's.

Immunosuppression can increase susceptibility to infections and mortalities, increase feed conversion, reduce vaccine effectiveness and increase total production cost. As a result, they have substantial negative impacts on poultry health and welfare, and production performance in the poultry industry. Understanding the pathogenesis of immunosuppressive diseases is crucial to safeguarding health and productivity in the poultry industry.

Pathogenesis of Immunosuppressive Diseases

Virus enters the body through various routes.

↓

Intial replication occurs in the small and large intestine.

↓

Viraemia occurs with spreading of virus to many organs like liver, kidney, heart, lungs, bone marrow & bursa.

↓

Virus can readily be isolated from faeces, ocular and nasal discharges.

↓

Affected organs show lesions at various degree.

↓

Chickens once affected become life long carrier.

IMMUNOTECH: The Lucrative Solution for Immunosuppression

Immunotech is a mixture of functional enzymes and polyphenols, making it a powerful immunomodulator, anti-inflammatory, and antioxidant. Its unique formula not only enhances immunity but also helps to reduce inflammation and alleviate stress.

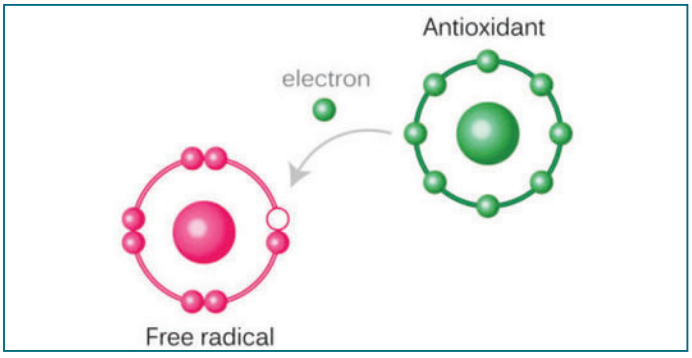
Immunotech targets and disrupts the proteins in virus cell walls, preventing the virus from replicating or attacking vital cells in the body. It revitalises a compromised immune system, helping restore it to normalcy and supporting the fight against infections. It functions in various ways, including:

As Immunity

- The enzymes present in Immunotech cleave the antigenic surface protein of organisms and digest their outer coat and the released enzyme-surface protein complex is ingested by macrophages and dendritic cells and induces higher antibody production
- It inhibits the pathogen's ability to attach to host cells by reducing the receptors available for pathogens, thereby decreasing infectivity
- When administered as a preventive measure, Immunotech functions like a "biological vacuum cleaner," purifying the blood and eliminating viruses from circulation. This significantly reduces the inflammatory response and enables normal immune functions to perform at a much healthier level
- Immunotech causes the enhancement of immune cells to kill bacteria, viruses, moulds and fungi
- The systemic enzymes in Immunotech break down immune complexes and eliminate them from circulation paving the way for the immune cell's action
- Immunotech boosts the bacteria-killing power of antibiotics and inhibits biofilm formation

As Antioxidant

- Polyphenols such as rutin are potent antioxidants and effectively neutralise the harmful free radicals generated by any means such as a change in temperature, transportation, etc.



As Anti-inflammatory

- At the molecular level, Immunotech blocks pro- inflammatory metabolites such as histamine, serotonin, and bradykinin that drive inflammation. Its enzymes modify the arachidonate pathway, reducing thromboxane production without affecting cyclooxygenase. This results in reduced edema and inflammation, and restores balance between the two types of prostaglandins. Additionally, it enhances blood flow volume and fluidity, aiding in the removal of inflammatory by-products.
- Enzymes activate α-2 macroglobulin, a cytokine catcher that typically exists in its inactive (slow) form in the blood. This activation leads to a quicker clearance of cytokine TNF- a, thereby reducing the stimulus for the expression of adhesion molecules.

Trial Report

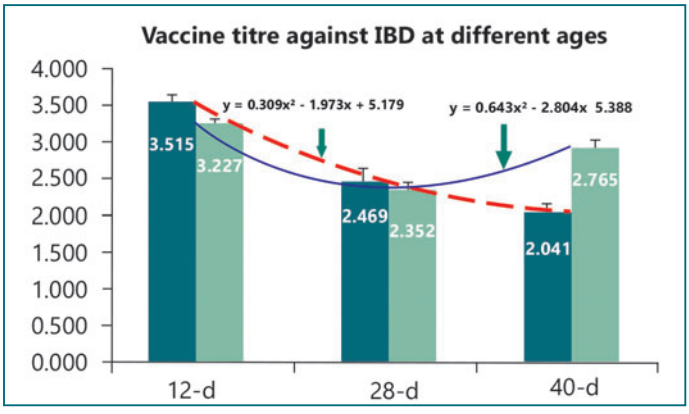
A straight run flock of 400 Cobb 400Y broiler chickens were distributed into 2 treatment groups and were raised on litter for 42 days. The birds were vaccinated according to the standard vaccination procedure against Newcastle disease (5- d and 20-d) and IBD (12-d).

The Treatment Diets were as Follows:

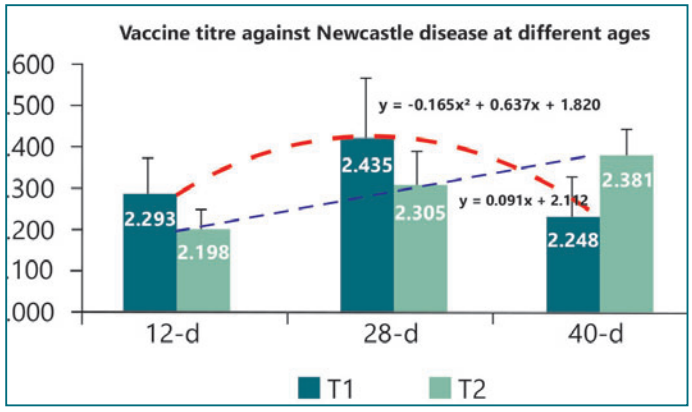
1. T1: Control diet devoid of any immune stimulant
2. T2: Control diet supplemented with Immunotech at the rate of 250 mg/kg feed throughout the experimental period

Vaccine Titre Against IBD

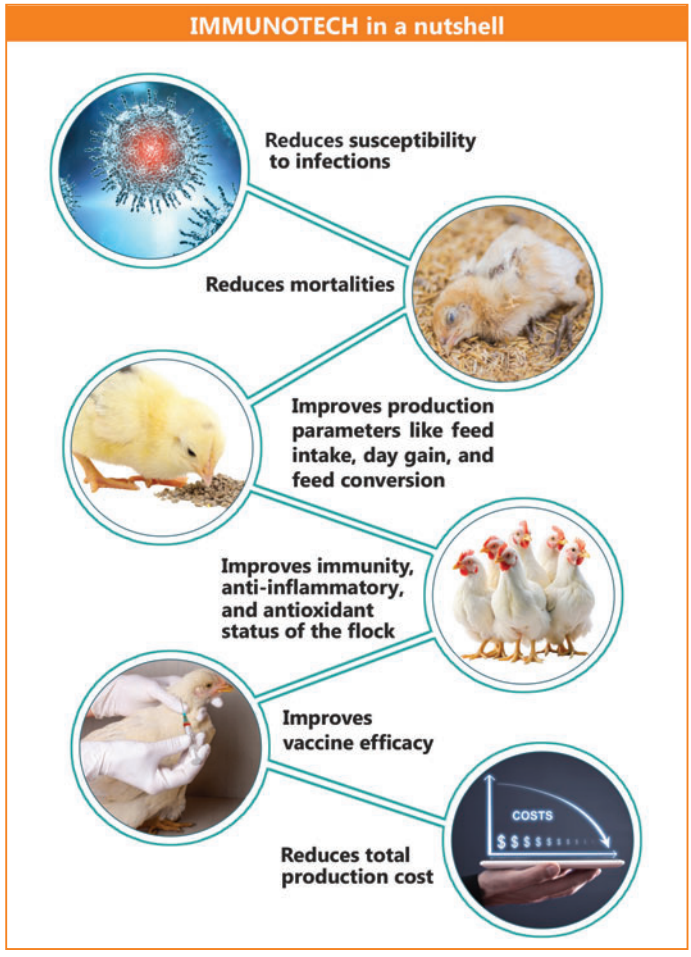
Vaccine titre (log10 values) against infectious bursal disease measured at 13-d, 28-d and 40-d of age is given below



Vaccine titre against IBD in the T1 group without any immune stimulant went on decreasing with age. On the contrary, in the T2 group, which was supplemented with Immunotech, vaccine titre decreased up to 28-d of age but increased thereafter at 40-d of age. Numerically, in the T2 group, IBD vaccine titre was comparatively lower when measured on 12-d and 28-d of age but it was significantly better when measured at 40 d of age ($P < 0.05$). The drop in the IBD titre value from 12-d to 40-d was 42 % while that in the T2 group was only 14%. The above data clearly indicate that supplementation of Immunotech has substantially improved IBD titre in the birds especially after 28-d of age.



The above values indicate clearly that the vaccine titre against ND in the control group increased at 20-d of age in both the groups as compared with the initial values (age effect $P < 0.05$). However, in the T1 group which was devoid of any immune stimulant the vaccine titre decreased when measured at 40-d of age and came back to its initial level. On the contrary, in the T2 group, which was supplemented with Immunotech, the vaccine titre against ND increased linearly and a difference of 8% hike in the ND titre value was obtained from the initial value in this case.



trouw nutrition

a Nutreco company

Small switches Big change

Make **Big Changes** with **Small Switches** with our **Feed-Farm-Health** approach that can help you use antibiotics more responsibly.

OUR INNOVATIVE RANGE

Selacid® GG | Selko®-pH | IntelliBond® Cu | TOXO®-XL

Scan the code for latest updates

Trouw Nutrition India Pvt. Ltd.
Unit No. L4 04, SLN Terminus, Survey No. 133, Besides Botanical Gardens
Gachibowli, Hyderabad - 500032, Telangana. INDIA. T: +91 40 2988 0258
E: customercareindia@trouwnutrition.com W:www.trouwnutrition.in

Article

Antimicrobial Resistance in Poultry: A Global Concern with Local Solutions

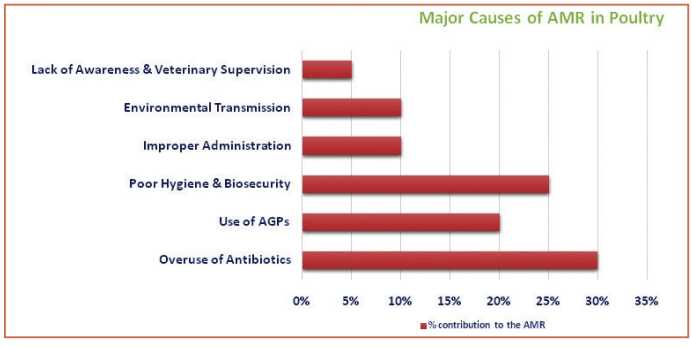
Dr. J. Pothanna
Technical Manager
Trouw Nutrition South Asia

Antimicrobial Resistance (AMR) is a global health threat that occurs when microorganisms—bacteria, viruses, fungi, and parasites develop resistance to antimicrobial drugs, reducing the effectiveness of treatments. The increasing prevalence of AMR in poultry has raised concerns about food safety, public health, and economic sustainability. The One Health approach, promoted by organisations like WHO, FAO, and OIE, emphasises the need for a holistic strategy to combat AMR. This includes responsible antibiotic use, alternative disease prevention methods, improved farm management, and stricter regulations.

Addressing AMR in poultry is essential to ensuring sustainable animal production, protecting public health, and maintaining the effectiveness of antimicrobial treatments. A collaborative approach involving farmers, veterinarians, policymakers, and researchers is crucial in mitigating AMR and securing a healthier future for both animals and humans.

Although poultry farming uses relatively fewer antibiotics than other livestock industries, its contribution to AMR remains significant. This is because poultry production involves large-scale farming, rapid bird turnover, and close confinement, creating an environment where antibiotic-resistant bacteria can develop and spread quickly.

Key Factors Contributing to Antimicrobial Resistance (AMR) in Poultry

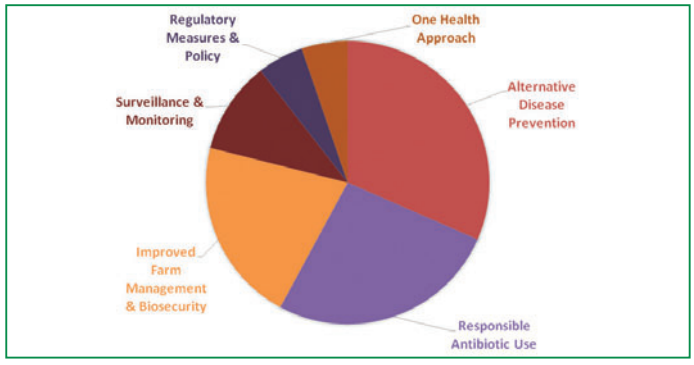


- Unregulated antibiotic use (30%) is the leading cause of AMR, as unregulated use allows resistant bacteria to thrive. Lack of veterinary supervision leads to incorrect dosages and prolonged exposure, accelerating resistance
- Antibiotic growth promoters (AGPs) (20%) are added to feed for growth enhancement, but prolonged use fosters resistance. Though banned in many countries, AGPs remain in use in some regions, worsening AMR
- Poor hygiene and biosecurity (25%) encourage bacterial persistence. Contaminated water, improper waste disposal, and cross-contamination through workers and equipment contribute to AMR
- Improper antibiotic administration (10%) due to incorrect dosages, mixing antibiotics, and incomplete treatment courses, enabling bacteria to adapt and increasing resistance
- Environmental transmission (10%) spreads AMR through contaminated feed, water, and farm surroundings. Wildlife and farm workers act as carriers, transferring resistant bacteria between farms

Global Regulations and Guidelines on AMR

Regulatory Body	Key Guidelines & Actions
WHO (World Health Organization)	Global Action Plan (GAP) on AMR, promotes surveillance, antibiotic stewardship, and infection control
WOAH (World Organisation for Animal Health)	Guidelines for responsible antimicrobial use in animals, restrictions on antibiotic growth promoters (AGPs)
FAO (Food and Agriculture Organization)	Encourages good agricultural practices (GAP), biosecurity measures, and responsible antibiotic use in food production
Codex Alimentarius (FAO & WHO Joint Commission)	Sets global food safety standards, regulates antibiotic residue limits in animal products
European Union (EU)	Banned antibiotic growth promoters (AGPs) in 2006, enforces strict veterinary oversight of antibiotic use
U.S. FDA (Food and Drug Administration)	Veterinary Feed Directive (VFD) requires prescriptions for antibiotic use in animal feed, prohibits antibiotics for growth promotion
Global AMR Surveillance Programs	WHO's GLASS, FAO's INFAAR, and other regional initiatives monitor AMR trends and guide policy decisions

Key Strategies to Control AMR in Poultry

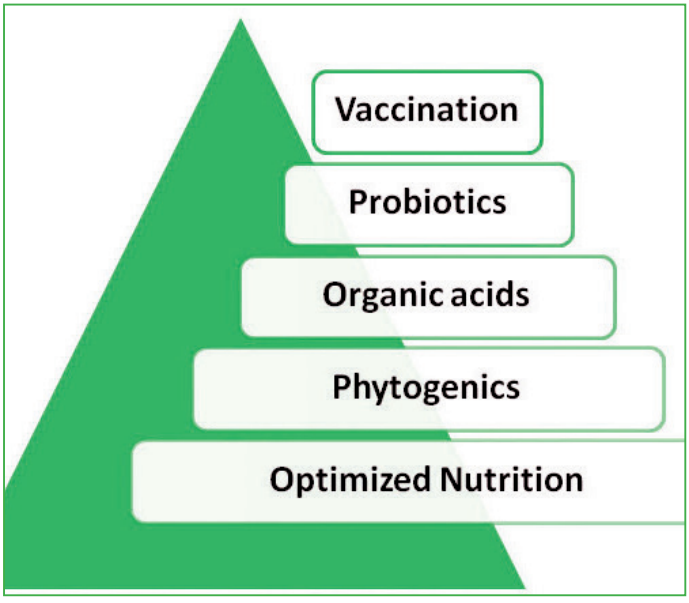


As per the pie chart, 75% of AMR mitigation strategies are directly within our control, highlighting the pivotal role of farm management, responsible antibiotic use, and biosecurity in reducing antimicrobial resistance.

Responsible Antibiotic Use – This is the most crucial strategy, Ensuring antibiotics are used only when necessary, at the correct dosage, and under veterinary guidance.

- **Vaccination** – The First Line of Defence- Develop a structured vaccination program based on local disease risks
- **Probiotics** – Gut Health as a Defence System - Strengthens intestinal barrier function, preventing pathogen entry into the bloodstream
- **Organic Acids** – Natural Bacterial Control - Organic acids are an effective alternative to antibiotics, controlling bacterial populations while improving gut health
- **Phytogenics** – Harnessing Herbal Benefits - Phytogenics, derived from herbs and plant extracts, offer antimicrobial and immune-boosting properties
- **Optimised Nutrition** – Immunity through Feed- Proper nutrition plays a vital role in enhancing the immune system, reducing the need for antibiotics

Alternative Disease Prevention Strategies in Poultry



- Optimised nutrition plays a vital role in enhancing poultry immunity, reducing disease susceptibility, and minimising antibiotic dependency. Trouw Nutrition offers a range of advanced solutions, including Farm Minerals at 0.5%, 3.5%, and 4% inclusion levels, ensuring a precise amino acid balance for optimal performance in layers and broilers
- Trouw Nutrition's 4th generation IntelliBond Trace minerals, formulated with Optisize technology, provide superior bioavailability, improving enzyme functions, immunity, and overall performance
- Feeding copper at 125-250 ppm improves gut health, nutrient absorption, feed efficiency, and pathogen defence. However, copper sulphate ($CuSO_4$) can disrupt mineral balance and reduce feed stability. IntelliBond Cu from Trouw Nutrition offers a more stable, bioavailable alternative, ensuring optimal poultry health and performance
- Additionally, Trouw Nutrition's superior Vitamin Premixes ensure optimal absorption, strengthen immune responses, and reduce oxidative stress
- Trouw Nutrition's Mycotoxin Binders protect poultry from toxin-related immune suppression, ensuring optimal health and performance. By integrating these innovative nutritional solutions, farmers can enhance bird resilience, promote sustainable production, and significantly reduce antibiotic reliance
- Trouw Nutrition's Fytera Perform is a phytogenic feed additive with strong anti-inflammatory properties, helping to reduce oxidative stress, support immune function, and enhance overall poultry performance
- Selacid GG, Trouw Nutrition's advanced acidifier, combines short-chain (SCFAs) and medium-chain fatty acids (MCFAs) in a synergistic action to target both Gram-negative and Gram-positive bacteria. SCFAs lower gut pH, inhibiting harmful microbes, while MCFAs disrupt bacterial cell membranes, enhancing gut health, digestion, and overall poultry performance
- By integrating these innovative nutritional solutions, farmers can enhance bird resilience, promote sustainable production, and significantly reduce antibiotic reliance

Conclusion

Combating Antimicrobial Resistance (AMR) in poultry requires a holistic approach that integrates animal, human, and environmental health. By focusing on responsible antibiotic use, advanced nutrition, and sustainable practices, poultry producers can effectively reduce AMR while maintaining performance and profitability. Trouw Nutrition actively promotes AMR reduction by aligning with the One Health approach, offering IntelliBond trace minerals, Selacid GG acidifiers, Fytera Perform phytogenics, and precision-formulated vitamin premixes. Through science-driven solutions and industry collaboration, Trouw Nutrition supports a healthier, more sustainable future for poultry production.

GRAINS OF TRUTH

Feed formulations and costs plays a crucial role in the global poultry industry dynamics. IPR collates the latest in poultry feed insights; trends transforming poultry nutrition in ingredient research, analysis by nutritionists and experts, giving direction to Indian livestock producers and feed mill operators for the year ahead

The Indian poultry feed market was valued at USD 3.27 billion in 2024 and is anticipated to project impressive growth in the forecast period with a CAGR of 6.21% through 2030.

A recent Crisil report said, the Indian poultry industry's operating profitability is poised to slip this financial year 2025-26, owing to an increase in feed cost, even as strong demand leads to revenue growth of 8-10%.

The operating profitability is expected to slip 50 basis points, the rating agency said. With modest capital expenditure, no significant debt addition and healthy accrual, the credit profiles of poultry companies are expected to remain stable, Crisil Ratings said. The rating agency has come up with these estimates after analysing 30 poultry companies with a collective generated revenue of about Rs.10,000 crore in the last fiscal, 2023-24.

"The industry's margin improved last fiscal and this fiscal due to favourable input costs and higher realisation, particularly from softening feed prices," said the rating agency. In 2025-26, profitability is, however, expected to narrow owing to an anticipated increase in prices of maize and soya-made feeds.

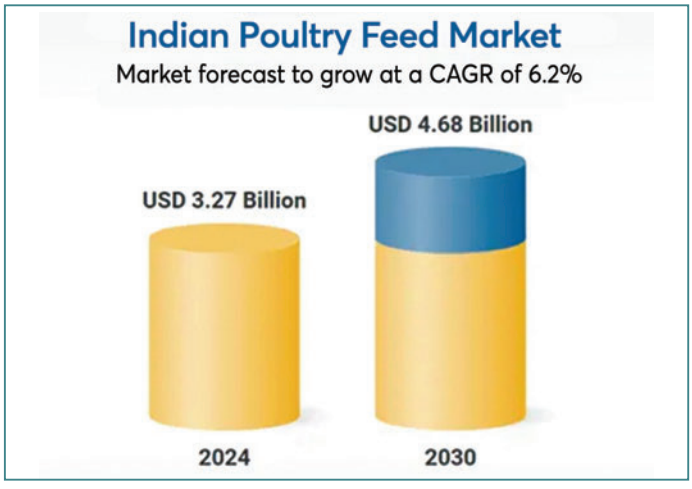
Jayashree Nandakumar, Director, Crisil Ratings has said the price of soya, which accounts for 30% of the total feed cost, declined last fiscal and this fiscal owing to a bumper crop. "However, with the soya acreage expected to reduce, the price is likely to increase next fiscal," Ms. Nandakumar noted. The price of maize, which constitutes 60% of the overall feed cost, is also expected to increase due to rising demand for ethanol production, she added. Over the past two years, maize prices in India have experienced a significant upward trend. In the fiscal year 2023, the procurement price of maize was Rs.1,962 per quintal, which increased to Rs. 2,090 in fiscal year 2024 and to Rs. 2,225 in fiscal year 2025, as per Statista, the online market research platform.

Despite this pressure on margins, the report states that poultry companies' credit profiles are expected to remain stable, supported by modest capital expenditures, limited debt addition and steady cash flows. Notwithstanding a decline in profitability, revenues of poultry companies are likely to increase 8-10 % next fiscal, following a similar growth rate this fiscal, driven by both healthy volume and solid realisation. Strong growth in domestic consumption of broiler chicken and eggs is expected to drive volume growth. India's per capita consumption of eggs and poultry meat is much lower than the global average, indicating significant potential for growth.

"Changing dietary preferences, rising disposable incomes and increasing urbanisation are some of the factors that would support volume growth of 4-6% over the medium term," said the rating agency. Rishi Hari, Associate Director, Crisil Ratings said, given the strong demand and higher feed cost, they expect overall realisation for the industry to grow 4-5% next fiscal. "The average price per kg of broiler chicken would increase 3-5% and the average price per dozen eggs by 2-4% on-year," Rishi Hari concluded.

Poultry feed is a type of animal feed that is specifically formulated to meet the dietary requirements of birds, including chickens, turkeys, ducks and other fowl. It is typically comprised of a mixture of grains, proteins, vitamins and minerals that are necessary for the healthy growth and development of poultry. The composition of poultry feed can vary depending on the type of bird, its age and the purpose it is being raised for, such as meat production or egg laying.

The Indian poultry feed market is a rapidly growing sector, bolstered by the country's large scale poultry production. The market is characterised by a diverse range of products, catering to the unique nutritional needs of different poultry types and stages of growth. This market is driven by increasing consumer demand for poultry products, advancements in poultry breeding techniques and the growth of organised poultry farming.



The escalating demand for poultry products in India is anticipated to stimulate the need for poultry feed significantly. Over recent years, India has witnessed a remarkable shift in dietary habits, as health-conscious consumers are progressively embracing protein-rich diets, which include a wide range of poultry products like chicken and eggs. This shift is primarily driven by a growing awareness of the health benefits associated with consuming poultry products, as well as the increasing disposable income levels of the population. Poultry farming, which caters to this rising demand, plays a crucial role in meeting the poultry requirements of the nation.

To manage feed costs, companies are likely to maintain larger feed inventories during the harvest season, leading to a slight rise in gross current assets to 60-65 days.

Meanwhile post-pandemic capacity expansions have ensured sufficient buffer, reducing the need for major debt-funded investments. As a result, interest coverage ratios are expected to remain comfortable at 3.1-3.5 times, with gearing steady at around one time. Despite a largely stable outlook, volatility in feed costs, fluctuations in poultry prices, and the risk of bird flu outbreaks remain key factors for the industry to watch in the coming months. However, experts in poultry sector believe that expanding poultry farms, modernising facilities and adopting efficient production practices will drive poultry meat production growth.

"The sector's expansion will depend on demand patterns, technology adoption, government policies and feed availability. There is also a need for investments in cold chain infrastructure and high-capacity processing plants of international standards," said Ricky Thaper, Joint Secretary of the Poultry Federation of India. "A shift to ethanol production from maize could impact domestic supply, affecting both the poultry and biofuel sectors. To meet the rising demand from poultry, starch and biofuel industries, India must consider allowing GM maize imports and boosting domestic production," he added.

In a latest development in the poultry feed market, increased use of cost-effective Distillers Dried Grains with Solubles (DDGS) in poultry feed has dented demand for soybean meal in the feed segment, said a trade body recently, reducing its forecast for domestic feed consumption in the ongoing oil year October 2024 to September 2025 by approximately 5%.

Soybean Processors Association of India (SOPA) has revised its estimate for annual domestic feed consumption of soybean meal in feed category to 63 lakh tonne from the previous 66 lakh tonne. The trade body has additionally reduced the total estimated crushing for the current marketing year by 5 lakh tonne to 110 lakh tonne.

The exports of soybean meal from India in February declined by roughly 35% to 1.54 lakh tonne year-on-year owing to diminished demand from France, Germany, Netherlands and other principal foreign buyers, according to data released by SOPA. In January, 2025 exports of soybean meal from India were 2.78 lakh tonne.

"The increased utilisation of DDGS in place of soybean meal in poultry feed continues to affect the demand for soybean meal and adversely impact the industry. Considering the reduction in demand of soybean meal in local market, we have reduced domestic consumption by 3 lakh tonne, from 66 lakh tonnes to 63 lakh tonnes, " said D. N. Pathak, Executive Director of SOPA.

Madhya Pradesh is a leading soybean cultivating state in the nation. Export of soybean meal during October 2024 to February 2025 totalled 9.50 lakh tonne compared to 11.71 lakh tonne in the corresponding period a year ago, the data indicated.

SOPA in, a letter to the Commerce Minister indicated that the countervailing duty of 283.91% on imports of organic soybean meal from India by the United States has significantly impaired the competitiveness of Indian exporters in the US market.

However, to ensure the optimal growth and health of the birds, it is imperative to provide them with high-quality poultry feed. The quality of the feed directly affects the quality of the poultry products, making it essential for farmers to focus on enhancing feed quality.

The emergence of online poultry feed sales platforms is projected to significantly boost the demand for poultry feed in India. These platforms are breaking down geographical barriers, allowing poultry farmers in distant and rural regions to access high-quality feed with ease. Prior to this, the procurement of quality poultry feed was a major challenge for these farmers, often compounded by logistical issues and inconsistent supply. The online platforms are now providing a seamless, reliable and timely delivery of feed, which is crucial in the poultry business where the quality and timelines of feed directly impacts productivity.

Furthermore, these e-commerce platforms are also fostering competition among feed suppliers, leading to better pricing, improved feed quality, and innovative feed solutions. They also offer a wealth of information, assisting farmers in making informed purchases based on the nutritional content, brand reputation and customer reviews. This blend of accessibility, convenience, competitive pricing and informed decision-making offered by online platforms is expected to uplift the poultry industry in India, thereby driving a steep rise in the demand for poultry feed.

The growing health consciousness among Indian consumers has significantly elevated the demand for healthy and organic poultry products. This trend, in turn, is expected to boost the poultry feed market in the country. As consumers become increasingly aware of the health benefits of organic food and the detriments of chemically treated products, the importance of organic poultry feed – the backbone of organic poultry farming – becomes paramount. Feed plays a critical role in determining the overall health of poultry. Consequently, the demand for high-quality, organic feed, devoid of antibiotics and chemicals, is anticipated to rise significantly.

Furthermore, the Indian government's efforts in promoting poultry farming as a sustainable source of income, particularly in rural areas, is likely to contribute to this surge in demand. The propagation of organic farming practices, coupled with rising income levels and changing dietary habits, is expected to spur the poultry feed market in India. This shift towards healthier and organic poultry products signifies a promising future for the poultry feed industry.

While, in the larger picture, globally, the feed additive and grains markets are among those navigating the global tariff landscape, with the U.S., EU, China, Canada and Mexico imposing levies and countermeasures on certain products.

According to a 21st March, 2025 report from Expana, feed additive market participants stored inventory in the fourth quarter of 2024, in anticipation of port strikes and tariffs. However, after delaying purchasing through the first quarter of 2025, reserves are dwindling and buying activity is ramping up, the report said, as U.S. feed additive buyers are cautiously returning to the market.

As fresh material – subject to tariffs – begins to arrive at U.S. ports, some suppliers have raised prices. Others have not yet adjusted prices and are offloading pre-tariff inventory at previous prices. Expana said this transition period may take weeks or months to stabilise.

Meanwhile, vitamin E prices has moved higher for the second quarter after holding steady for weeks. "In Canada where no tariff applies, price indications have moved below U.S. levels," the report said. "Meanwhile Chinese-origin lysine HCl is quoted at $0.86/lb ($1.90/kg) in the U.S. prompt market, rising to $0.95-$0.99/lb ($2.09-$2.18/kg) later in Q2 as tariff costs factor in."

The U.S. corn and wheat export sales and export inspections continue to show good demand, the report said. "Tariffs are still a large concern in that they could cause demand destruction,"

Expana said. "However, reduced global wheat supply (particularly from Russia) appears to be increasing demand for U.S. wheat, according to market players."

On the other hand, demand for U.S. corn remains solid, "due to smaller-than-expected stocks-to-use for major corn consuming countries. Market players initially thought the strong export sales and inspections were due to countries trying to front run the tariffs. Yet, this train of thought is becoming less likely," the report said.

Overall, the global animal feed production remained steady in 2023 at 1.29 billion metric tonnes (mt), a slight decrease (0.2%) of 2.6 million mt from 2022's estimates, according to the 2024 Agri-Food Outlook, released by Alltech. The annual survey includes data from 142 countries and more than 27,000 feed mills.

The overall lower demand for food was due, in part, to the more efficient use of feed made possible by intensive production systems that focus on using animal nutrition, farm management and other technologies to lower feed intake while producing the same amount of protein, or more. A slowdown in the overall production of animal protein, in response to tight margins experienced by many feed and animal protein companies, also contributed to lower feed demand. Changing consumption patterns caused by inflation and dietary trends, higher production costs and geopolitical tensions also influenced feed production in 2023.

Poultry experienced an increase in broiler feed production (385.04 mmt, +13.10mmt, +3.5%) and remained steady with a slight increase for layers (170.88 mmt, +0.01 mmt, 0%). Broiler feed now accounts for 29.9% of the total feed tonnage in the world thanks to a 3.5% increase in overall tonnage in 2023. While this growth was not uniform across all regions, the poultry sector kept holding strong in 2024.

For layers, there are industry-wide efforts to optimise feed efficiency and to keep pace with changing dietary trends and new purchasing power. Some markets around the globe were significantly impacted by macroeconomic challenges and disease outbreaks, which can disrupt production cycles. Still, according to the report, the general outlook for the layer industry remains positive thanks to its resilience in the face of difficult circumstances, when other protein sectors often struggle to adapt.

Together, top 10 countries produced 63.1% of the world's feed production over 2023-24. Interestingly, almost half of the world's global feed production is concentrated in China 262.71 mmt (+0.76%), the U.S. 238.09 mmt (-1.13%), Brazil 83.32 mmt (+1.84%) and India 52.83 mmt (+13.43%).

Article

Celebrate the Veterinarians Unsung Heroes of Our Society

SHRIDHAR speaks

Tarun Shridhar
Director General,
Indian Chamber of
Food and Agriculture (ICFA);
and former Secretary,
Ministry of Fisheries, Animal
Husbandry and Dairying,
Government of India

Not many would know that 26th April, 2025 is World Veterinary Day; it is the last Saturday of April, the day celebrated as such to honour the important role veterinarians play in protecting animal health, public health, and the environment. The celebrations are muted, confined to the associations of veterinarians, veterinary institutions and such sundry organisations. Ironically, the public at large continues to be indifferent to the veterinary profession despite the fact that a veterinarian protects the public health and environment too besides his avowed role of an animal doctor. Established by the World Veterinary Association (WVA), this day recognises the role of veterinary professionals in improving animal health and welfare, ensuring food safety, and advancing scientific research, and seeks to foster global appreciation for veterinarians' contributions to society.

WVA has announced to observe the theme "Animal Health Takes a Team" in the World Veterinary Day 2025. This theme aims to highlight the collaborative nature of veterinary practice and underscore the essential role that multiple professionals play in delivering high-quality veterinary services. It goes on to elaborate, "the theme focuses on the importance of teamwork in veterinary care, acknowledging that effective veterinary services often rely on the collective efforts of a range of professionals, including veterinary nurses, technicians, researchers, and other allied health professionals. The WVA Council selected this theme to shine a spotlight on the dynamic nature of veterinary services, which require cooperation and collaboration across various fields of expertise to address the diverse challenges in animal health and care. By working together, veterinary teams can ensure the highest standards of care and support for animals, their owners, and the globe." Vasudaiva Kutumbukam in other words.

The word veterinary is derived from the Latin 'veterinae' meaning beasts of burden or working animals; hence, during the ancient times it was typically associated with the two such animals, the cattle and horses. Historical evidence indicates that veterinary medicine originally developed, along with human medicine, in response to the needs of pastoral and agricultural man. The evidence further points towards the likely existence of the veterinary profession throughout a large area of Africa and Asia in around 2000 BC. Ancient Egyptian literature includes monographs on both animal and human diseases. Evidence of the parallel development of human and veterinary medicine is found in the writings of Hippocrates on medicine and of Aristotle, who described the symptomatology and therapy of the diseases of animals, including man. In fact, the ancient Greek philosopher and physician Hippocrates, considered one of the most outstanding figures in the history of medicine and traditionally referred to as the "Father of Medicine" in recognition of his lasting contributions to the field, was the first in the recorded history of civilisation to recognise the relationship between human and animal health. The central idea of Hippocratic philosophy is the principle of wholeness, that knowledge of nature is possible only when it is correctly approached as a whole; in a nutshell it recognises that human health, animal health and environmental health are part of a whole. Early Greek scholars discovered parallels and similarities of medical problems among the many animal species, and thus taught both human and veterinary medicine. Alexander the Great, in the 4th century BC, designed programs involving the study of animals. Several medical writings of the Romans establish that some of the most important early observations and scientific studies on the natural history of disease were made by scholars who wrote chiefly about agriculture, particularly the aspect involving domesticated animals.

While the term veterinarian is believed to have first made an appearance in written documents in 1646, the ancient Indian sage and veterinary physician Shalihotra, mythologically estimated to have existed circa 2350 BCE, too is believed to be the founder of veterinary sciences. The ancient scriptures and texts make a specific mention that animals and humans are a part of the same cosmos. Charvaka, Susutra and Harita Samhitas are ancient Indian medical treatises emphasising the critical importance of protecting animal health and promptly attending to animal diseases, thus drawing, in the ancient times, parallels between human and animal health.

Our predecessors recognised and respected the immense contribution of veterinary science. Therefore, it should come as no surprise to learn that veterinary science preceded health science, as did veterinary medicine. The global community realised the importance of protecting animal health way earlier to the recognition of the same global effort for addressing human health concerns. Therefore, it should come as no surprise that global collaboration in animal health found institutional expression through the World Organization of Animal Health (WOAH) as early as in the year 1924

whereas the World Health Organisation (WHO) was established in 1948. And at home, today's Indian Veterinary Research Institute (IVRI) was created in the year 1889, albeit in a different moniker, and its counterpart the Indian Council of Medical Research (ICMR) came into existence more than two decades later in 1911. It may be worthwhile to record here that the Indian Council for Agricultural Research (ICAR) too was a successor, and not a precursor, to the IVRI, having been established in 1905. There is little historical evidence to explain how veterinary science got overshadowed by health science, and its expanded sector animal husbandry got subsumed in agriculture.

The work of Louis Pasteur is of fundamental significance in the evolution of veterinary science as it raised concern for foods of animal origin leading to the study of microorganisms and their identification with diseases in man and other animals. The veterinary profession assumed a major role in food-hygiene programs and gradually, the eradication of animal diseases, rather than their control, became increasingly important. Today, combating zoonoses and contributing to assured, hygienic, safe and nutritious food supply have become the indispensable services of veterinary science.

In the face of demographic challenges, increased international trade and the effects of climate change, animal health is more fundamental than ever to the development and well-being of human populations around the world. Livestock constitutes 40% of the value of global agriculture, and supports the income and livelihoods of one fifth of the global population, mostly in developing countries. Obviously, animal diseases can significantly impact the economy and livelihood of a vast multitude. The global burden of animal diseases, though difficult to measure, is huge. It quite evidently leads to a burden of human diseases, impacts food security, dents the economy etc., but as the current ongoing pandemic has demonstrated it also strikes at the basic fabric of society and its lifestyles: a zoonotic micro pathogen had recently brought the entire mankind on its knees and forced it into a self imposed lockdown. This should surely build a strong case for strengthening the veterinary institutions and services. The most effective and economic approach to protecting human health is to control zoonotic pathogens at their animal source. Not only does it call for close institutionalised and harmonized collaboration at local, regional and global level between the veterinary, health and environmental governance, but also greater investment in the animal health infrastructure. Developing countries like ours have much greater stakes in strong One Health systems on account of small agricultural holdings and mixed farming systems resulting in uncomfortably close proximity of animals and humans. This builds a strong case for health and disease surveillance to incorporate domestic animals, livestock and poultry too. Humans require a regular diet of animal protein from milk, eggs, meat etc., and protein deficiency is a public health concern. Thus loss of food animals on account of its poor health or disease too becomes a public health issue even though there may be no disease transmission; and we lose 20% of our animals this way. A veterinarian today, therefore, protects the health of both animals and people. Besides addressing the health concerns, the welfare needs of every species of animal too are his domain. Moreover, as a manager of animal husbandry, he also plays critical roles in rural livelihoods and economy, environmental protection, food safety, and hence public health.

A medical doctor is, quite often and deservedly, treated as a God. A Veterinarian too is a doctor, and unlike his counterpart, always on house call; he is also a nutritionist, a farmer, a manager, an economist, a livestock production advisor etc. but still not given a divine treatment. Isn't the Veterinarian the best and the most skilful doctor in the world? He does not enjoy the luxury of questioning his patients as to what the ailment or simply the matter is. He has just got to know and diagnose, without any benefit of verbal communication. Not only has he to be a dexterous medical professional but also a communicator of divine insight. Let us remember, on this World Veterinary Day, to respect the Veterinarians as they protect our health too.

Isn't the Veterinarian the best and the most skilful doctor in the world? He does not enjoy the luxury of questioning his patients as to what the ailment or simply the matter is. He has just got to know and diagnose, without any benefit of verbal communication. Not only has he to be a dexterous medical professional but also a communicator of divine insight

Article

Optimising Vitamin D_3 Supplementation to Prevent Tibial Dyschondroplasia (TD) in Poultry-Comparative Landscape of Calcitriol as Compared to Other Vitamin D_3 Derivatives

Dr. Ramdas S Kambale
CEO & Board Member
GLOCREST Pharmaceutical Pvt. Ltd.
Mumbai

Dr. Mahesh Kajagar
Technical Manager
Krishna Farm - Mysore

Introduction

The poultry industry plays a crucial role in global food production, providing a primary source of animal protein through meat and eggs. However, intensive poultry farming has led to the rise of skeletal disorders such as Tibial Dyschondroplasia (TD), a metabolic bone disease commonly found in fast-growing broiler chickens. TD affects the growth plates of long bones, leading to lameness, poor weight gain, and high economic losses. One of the key nutritional factors influencing TD development is vitamin D and its metabolites, which are essential for bone mineralisation and chondrocyte differentiation. This article explores the role of vitamin D in TD prevention, focusing on bioavailability, biopotency, and dietary optimisation.

Understanding Tibial Dyschondroplasia (TD) in Poultry

TD is a skeletal disorder affecting the growth plates at the ends of long bones, particularly the tibiotarsus and tarsometatarsus. It is characterised by the presence of unmineralised, avascular cartilage, which fails to mature into bone.

Key Pathogenic Mechanisms of TD

1. Impaired Endochondral Ossification

- In normal bone development, chondrocytes proliferate, mature, and are replaced by bone
- In TD, chondrocyte differentiation is disrupted, leading to cartilage accumulation

2. Failure of Cartilage Vascularisation

- Growth plate blood vessels fail to penetrate, preventing nutrient supply and ossification
- Hypoxia and cell death contribute to defective mineralisation

3. Oxidative Stress and Cellular Damage

- Increased reactive oxygen species (ROS) damage chondrocytes
- Antioxidant defenses (glutathione, catalase) are often overwhelmed

4. Nutritional Deficiencies and Genetic Susceptibility

- Calcium, phosphorus, vitamin D, and trace mineral imbalances (Zn, Cu, Mn) affect bone formation
- Some genetic lines of broilers are more prone to TD due to rapid growth rates

5. Disruptions in Molecular Signaling

- Altered expression of growth factors (VEGF, IGF-1, Indian Hedgehog) affects cartilage formation
- Matrix metalloproteinases (MMPs) responsible for cartilage degradation may be dysfunctional

The Role of Vitamin D_3 in Bone Health and TD Prevention

Vitamin D plays a vital role in bone mineralisation by regulating calcium and phosphorus metabolism. Its active form, 1,25-dihydroxyvitamin D_3 (calcitriol), is crucial for:

- Chondrocyte differentiation and proliferation in the growth plate
- Enhancing calcium and phosphorus absorption from the intestines
- Promoting vascularisation and cartilage-to-bone transition
- Preventing the accumulation of unmineralised cartilage, reducing TD risk

Vitamin D Metabolism in Poultry

- Vitamin D (Cholecalciferol) is converted in the liver to 25-hydroxyvitamin D_3(25-OH-D_3)
- In the kidneys, 25-OH-D_3 is hydroxylated to 1,25-dihydroxyvitamin D_3 (Calcitriol – the active form)
- The active form binds to vitamin D receptors (VDRs) in bones and intestines to regulate calcium uptake and bone mineralisation

Bioavailability and Biopotency of Vitamin D Vitamers in Poultry

Different forms of vitamin D vary in their ability to be absorbed and utilised in poultry.

Comparison of Vitamin D Vitamers			
Vitamer	**Conversion Steps**	**Bioavailability**	**TD Prevention Effectiveness**
Vitamin D_2 (Ergocalciferol)	Liver → 25-OH-D_2 → 1,25-$(OH)_2$-D_2	Low	Poor
Vitamin D_3 (Cholecalciferol)	Liver → 25-OH-D_3 → 1,25-$(OH)_2$-D_3	Moderate	Good
25-Hydroxyvitamin D_3 (25-OH-D_3)	Absorbed as 25-OH-D_3	Higher	Very Good
1,25-dihydroxyvitamin D_3 1,25-$(OH)_2$-D_3	Directly absorbed as active metabolite	Ultra-high	Excellent

Why 1,25-$(OH)_2$ -D_3 (Calcitriol- D) is More Effective than Standard D_3

- Bypasses the all-hydroxylation steps being already active form, allowing for faster absorption and utilisation
- Reduces TD incidence, improves bone strength, and enhances overall growth performance in broilers

Physiological Roles of 1,25-$(OH)_2$-D_3

- Enhances calcium and phosphorus absorption from the intestines
- Stimulates chondrocyte maturation and endochondral ossification in the growth plate
- Regulates vascularisation and mineral deposition in cartilage
- Binds to vitamin D receptors (VDRs) in bone-forming cells to promote skeletal integrity

Scientific Evidence Supporting 1,25-$(OH)_2$-D_3 in TD Reduction

Numerous studies have demonstrated the role of vitamin D_3 and its derivatives in preventing TD and promoting bone health:

- Lidor et al. (1987): Direct injection of 24,25-dihydroxyvitamin D_3 into rachitic chick growth plates resulted in healing, highlighting its direct action on chondrocytes
- Boyan et al. (2002): Found that 1,25-$(OH)_2$-D_3 decreased chondrocyte proliferation in both resting and proliferative zones, ensuring proper cartilage turnover
- Atencio et al. (2005), Driver et al. (2005): Showed that dietary supplementation with 1,25-$(OH)_2$-D_3 and its analogs significantly reduced TD incidence in broiler chickens

Optimising Vitamin D Supplementation in Poultry Diets

To effectively prevent TD and enhance bone health, poultry feed should include:

- Adequate vitamin D_3 (Cholecalciferol) supplementation to meet metabolic requirements
- Use of 1,25-dihydroxyvitamin D_3(1,25-$(OH)_2$-D_3) as a more bioavailable alternative
- Phytase enzyme supplementation to enhance phosphorus availability
- Balanced calcium and phosphorus levels to support proper bone development

Recommended Dietary Inclusion Levels

- Vitamin D_3: 3,000 – 5,000 IU/kg feed
- 1,25-$(OH)_2$-D_3: Inclusion through fortified supplements if needed
- Calcium-to-Phosphorus Ratio: Maintain at 2:1 for optimal bone mineralisation

Conclusion

1,25-Dihydroxyvitamin D_3 is a key regulator of bone mineralisation and chondrocyte maturation, making it essential for TD prevention in poultry. Studies confirm its role in enhancing cartilage development, vascularisation, and calcium-phosphorus homeostasis. Poultry diets optimised with 1,25-$(OH_2$-D_3 can significantly reduce TD prevalence, improve skeletal strength, and enhance broiler productivity.

GLOCREST®
Pharmaceutical Pvt. Ltd

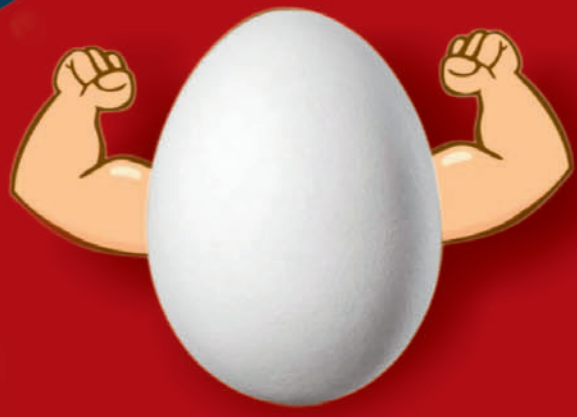
Innovation for a Better Health

CALCITRIOL-D™

Active & Original Vitamin D3 from European Source

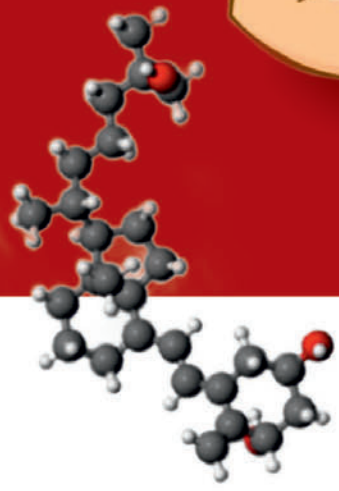
Imported from NETHERLANDS

Strong Skeleton and **Strong Egg Shell**

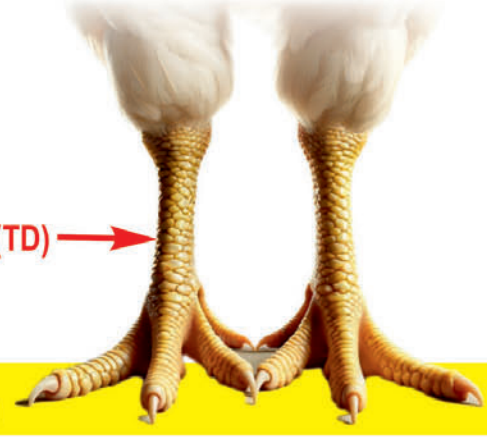


Premix Form

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

India's Poultry Powerhouse – Explore, Engage & Evolve at Expo 2025

Supported by

Indian Magazine Partner

International Magazine Partners

Media Partners

Venue Partner

Supporting Associations

Organised by

E Executive
A Advisory
C Committee
&

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

Article

Summer Stress

Dr. Sachin Patil
DGM - Key Clients
Huvepharma SEA

Heat stress due to summer has several serious and economic effects on poultry. In broilers it can cause reduced growth rate, decreased feed intake and poor feed conversion. Laying birds experience a drop in egg production, poor egg weight and reduced eggshell quality.

Thermoregulation in Poultry

Poultry rearing is well managed in temperatures between 21-25^{0}C which is called as thermo-neutral zone; temperature above 35^{0}C will cause heat stress to birds causing physiological changes. Chickens, unlike most other animals, do not possess sweat glands to aid in heat loss. Chicken removes excess body heat by following mechanisms.

Radiation- Heat will radiate from the bird's warmer body to a cooler surface, such as air, without the use of a medium (surface).

Conduction- Heat stressed birds will try to cool their bodies down by touching water pipes or digging into litter to come into contact with a cool floor.

Pix 1: Boiled appearance of Breasts due to heat stress

Convection- Moving air over birds is the most effective way to reduce heat stress. If the air is not moving quick enough, heat will begin to build up around the birds, which will increase heat stress.

Physiological & Behavioral Changes During Heat Stress

Under high temperature conditions, birds alter their behaviour and physiological homeostasis seeking thermoregulation, thereby decreasing body temperature. Following are the important changes which adversely affect the performance.

Reduced Feed Consumption

Water intake increases which leads to loose or watery droppings and increased volume of urine causes wet litter condition. This makes the litter environment favourable for the sporulation of coccidian spores. Decreased blood flow to digestive tract causes immunosuppression, dysbacteriosis results into coccidiosis and necrotic enteritis.

Hyperventilation or Panting

Evaporation of one gram of water from lungs dissipates 540 calories of maintenance energy due to increased muscle activity, hence it is said that summer feed should have more energy.

Pix 2: Boiled appearance of Breasts due to heat stress

Increased panting under heat stress conditions leads to increased carbon dioxide levels and higher blood pH (i.e., alkalosis). It also makes birds more prone to respiratory distress. Because of rapid panting (up to 10 times more than normal) and oxidative stress, degradation of cilia occurs which facilitates lodgment of Mycoplasma. As the heat stress elevates the multiplication of Mycoplasma it further causes respiratory distress, air saculitis. Though Mycoplasma on its own doesn't cause mortality, it results into Immunesupppression and occurrence of secondary infection. Some epidemiological studies also suggests that prevalence of viral diseases like IBD, WND, etc. which causes immunesupppression. This also leads to occurrence of mycoplasmosis and further respiratory diseases. Increased loss of minerals like sodium, potassium, etc. through panting disturbs the electrolyte balance.

Hormonal Changes During Heat Stress

High environmental temperatures alter the activity of the neuroendocrine system of poultry and elevate plasma Corticosterone concentrations. Increased Corticosterone concentrations i.e. epinephrine and or epinephrine causes increase in blood

Pix 3: Boiled appearance of Breasts due to heat stress

pressure, muscular tone and blood sugar levels. The combined effect results into increased maintenance energy which ultimately reduces the performance of the bird.

Effect of Heat Stress on Immune-Response

Increased environmental temperature causes Immunosuppression by reducing growth of bursa, CALT and spleen, circulating antibodies, lymphocytes, phagocytic activity of macrophages, etc. immunosuppression jeopardises the birds into infection by opportunistic pathogens like mycoplasmosis, coccidiosis, necrotic enteritis, E.coli, ND, IBD, etc.

Clinical Signs
Low feed intake, increased water intake, diarrhoea or loose droppings, incidence of ascites increases panting and rapid respiration, poor FCR and lower body weight reduction in egg production, egg size, egg weight, and poor shell quality.

Post-Mortem Findings
Dehydrated carcass, cooked breast appearance, mucous exudates in mouth and nostrils, pale or cyanotic comb, par boiled appearance of breast, increased body temperature, fluid contents in intestine, rapid decomposition of carcass.

Heat Stress Management
To overcome the huge economic loss by heat stress, control should be based on following steps:

Management Aspect

Pix 3: Boiled appearance of Breasts due to heat stress

- **Hang Wet Gunny Bags on the Sides**
- **Evaporative cooling-** Sprinklers are commonly used for evaporative cooling when temperatures are more then 40-41^{0}C
- **Stocking density** – Reducing the bird density in summer will give more floor space per bird and allow more heat to escape from underneath their bodies and from the litter
- **Ventilation-** Proper ventilation is crucial for heat stress management. A good ventilation system removes moisture, brings in an equal amount of fresh outside air, directs incoming air to all areas equally, keeps inside air moving to flush hot, humid air from between the birds, etc

Nutritional Aspect
Feeding Practices
As there is decrease in daily feed intake, increase the nutrition density, make the feed more concentrated. If there is enough floor space, extra feeders should be added. Encourage eating at cooler times of the day, i.e., early morning or in the evening. Remove feed 4 to 6 hours prior to an anticipated heat stress period. Birds should not be fed or disturbed during the hottest part of the day. Provide cold water for drinking especially during daytimes.

Energy
In order to provide higher energy levels fat inclusion should be more in feed which increases calorific value, palatability, feed intake by 5% and utilisation of nutrients.

Proteins
The requirements for protein and amino acids are independent of environmental temperature. Oxidation of protein also elevates the heat stress, hence it is good to keep protein level low with balanced amino acids. Hence, low protein levels (1-2% lower than usual) with higher critical amino acids i.e. lysine and methionine (5-10% higher than usual) is more helpful in managing heatstress.

Minerals & Vitamins
The loss of activity of vitamins during storage at high temperature is the prime concern during summer which makes it unavailable for bird. Heat stress also disturbs synthesis of vitamin C and absorption of vitamin A and E. Hence to avoid problems of vitamin deficiency due to above stated reasons 20-30% extra vitamins should be provided to the birds. Vitamin C-200-500 gm/ton of feed, Vitamin E- 50 gm/ton of feed should be provided.

Electrolytes
0.5-0.6% potassium and 0.5% sodium bicarbonate should be added to neutralise the respiratory alkalosis and its consequences.

Medication
Proper preventive measures to avoid respiratory and gut health problems should be taken during summer as these two systems are getting more involved. Antimycoplasmal agents (Pharmasin-Tylosin, Vetmulin- Tiamulin & Tilmovet-Tilmicosin) should be provided with proper does to prevent mycoplasmosis and secondary infection.

Anticoccidial program should be well maintained during the summer. As a managemental practice, farmers keep birds off feed during hot period; this lowers the concentration of anticoccidial and infection may occur. To prevent coccidiosis, proper anticoccidial programme with suitable molecule should be adapted.

As heat stress causes dysbacteriosis and increases chances of necrotic enteritis probiotics (B-Act- B. licheniformis) and feed additives (Albac-Bacitracin, Flavomycin-Flavophospholipol, etc.) should be given to birds as a preventive measure.

The perfect fit for Mycoplasma control

Vetmulin®

Limit vertical transmission

Pharmasin®

Safe and reliable

Tilmovet®

Protection at an early age

Huvepharma N.V.
Uitbreidingstraat 80 • 2600 Antwerp • Belgium
P +32 3 288 1849 • F +32 3 289 7845
customerservice@huvepharma.com

HUVEPHARMA

www.huvepharma.com

Huvepharma SEA (Pune) Pvt. Ltd.
42, 'Haridwar', Road 2 A/B
South Koregaon Park, Pune 411006, India
P +91 20 2665 4193 F +91 20 2665 5973
salesindia@huvepharma.com

BAADER

High Consistent Yield Performance

Automatic Breast Cap Deboning

BAADER is dedicated to supporting processors stay competitive while meeting the growing demand for deboned breast meat. The latest addition to BAADER's breast deboning portfolio, the Breast Cap Deboner 660A, is a fully automated system designed to efficiently produce a variety of high-quality fillet products at high speed with minimal labour.

- Works with only two loading operators
- Occupies less than 9 metres of space
- Offers a great variety of fillet products
- Adjusts tool according to individual breast cap size
- Works with pre-set recipes
- Allows for a wide product weight range.

Contact the local
BAADER Asia office on
+65 9127 0244
ba-asia@baader.com

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

Article

Beyond Symptomatic Relief: Tackling Poultry Stress at the Metabolic Level


Dr. Venkat Shelke
Head of Technical Services

Dr. Prateek Shukla
Product Manager
Trace Minerals and
Toxin Binder

Kemin Industries South Asia

Introduction

Modern poultry production systems operate under intensive conditions, exposing birds to multiple environmental, nutritional, and pathological stressors. These stressors impair metabolic efficiency, reduce productivity, and increase susceptibility to diseases (Nawab et al., 2018).

Chromium, an essential trace mineral, has gained immense scientific significance in poultry nutrition over the last 20 years due to its proven role in stress alleviation by reducing corticosterone levels and improving glucose metabolism, thereby enhancing insulin sensitivity and stabilising blood glucose levels under stress conditions (Sahin et al., 2002).

Scientific Role of Chromium in Poultry Physiology

Chromium is an essential component of the glucose tolerance factor (GTF), enhancing insulin action at the cellular level. Its primary biological role is to potentiate insulin activity, thereby improving carbohydrate, lipid, and protein metabolism (*Anderson, 2003*).

Among various forms, Chromium Propionate is recognised for its superior bioavailability and safety profile, with regulatory approval as a feed additive for animal nutrition, including poultry, based on its efficacy and safety evaluations (*EFSA, 2012*).

Chromium Propionate: A Paradigm Shift in Poultry Stress Management

Traditional stress management strategies using Vitamin C, electrolytes, and environmental controls provide symptomatic relief but fail to address the metabolic disruptions caused by stress. Chromium Propionate offers a mechanistic approach by directly targeting metabolic and endocrine pathways disrupted under stress.

Key Scientific Benefits

1. Heat Stress Management

- Chromium reduces corticosterone secretion during heat stress, preventing appetite loss, poor growth, and high mortality (*Rajalekshmi et al., 2012*)
- Trials confirm improved body weight, FCR, and survivability in broilers under heat stress when Chromium Propionate is supplemented (*Arif et al., 2019*)

2. Insulin Resistance Correction

- Stress conditions mimic Type 2 diabetes-like insulin resistance in poultry. Chromium supplementation restores insulin sensitivity, promoting glucose utilisation and reducing energy wastage (*Brooks et al., 2016*)

3. Enhanced Immunity

- Chromium increases serum IgG levels, enhancing immune defense. Supports better response to vaccinations and reduces mortality due to infectious challenges (*Rajalekshmi et al., 2014 and Brooks et al., 2016*)

4. Performance Improvements

- Broiler trials demonstrate improved weight gain and feed efficiency (*V. Von Hoeck et al., 2020*)
- In layers, Chromium enhances egg production, shell quality, and reduces mortality during peak production stress (*Ma et al., 2014*)

5. Economic Benefits

- Improved feed conversion translates to lower feed costs per kg of gain
- Reduces losses associated with stress-induced mortality, poor growth, and compromised egg quality

Stress-Induced Challenge	Role of Chromium
Elevated corticosterone leads to hyperglycemia and insulin resistance	Chromium reduces serum corticosterone, enhances insulin receptor sensitivity, improves glucose uptake, and stabilises blood glucose levels
Muscle protein catabolism due to energy deficits	Improves glucose utilisation for energy, reduces muscle degradation, and supports lean mass preservation
Lipid metabolism disturbances causing fat accumulation	Regulates lipid metabolism, minimising excessive fat deposition
Oxidative stress damages cellular structures	Reduces blood glucose levels, maintains optimum osmolarity, and supports cellular integrity
Immune suppression under chronic stress	Enhances lymphocyte proliferation and immunoglobulin production, improving immune resilience

Comparison with Traditional Stress Management Practices

Conventional Solutions	Chromium Propionate Benefits
Vitamin C / electrolytes reduce oxidative damage but do not improve insulin sensitivity	Enhances insulin action and optimises energy metabolism
Betaine improves osmoregulation but limited effect on hormonal stress response	Reduces corticosterone levels and optimises stress
No impact on protein and lipid metabolism	Improves protein synthesis, and reduces fat accumulation
Limited immune modulation	Enhances immune response and disease resistance
Immune suppression under chronic stress	Enhances lymphocyte proliferation and immuno-globulin production, improving immune resilience

Conclusion and Recommendation

Chromium Propionate is not just a feed additive but a critical metabolic modulator that addresses the root causes of stress-

induced performance losses in poultry. Its scientifically proven benefits in glucose metabolism, stress hormone regulation, immune enhancement, and oxidative stress reduction make it an indispensable tool for poultry nutritionists aiming to maximise productivity and profitability.

Recommended Application

- Integrate Chromium Propionate in feed formulations, especially during heat stress, production peaks, and health challenges
- Combine with antioxidants like Vitamin C for synergistic effects

(*References on Reques*)

Poultry Water Quality Checklist

A critical component of biosecurity is the availability of high-quality water on farm premises. Clean, safe water to cool birds, and clean facilities and equipment without contamination are needed. Because, disease-causing agents may be carried by water, the decisions made about where to get water and how it's handled are critical to the health of birds.

1. Is the drinking water quality maintained at a standard suitable for use in poultry production? (Yes/No)
2. Are waterlines, header tank, and shed tank cleaned thoroughly between flocks? (Yes/No)
    a. Precaution is taken when leaving organic acids in mixing tanks and the drinking lines. (Yes/No)
    b. Checked for blocking of pipe nipples or slime formation. (Yes/No)
    c. Flushed drinking lines before the new flock to remove biofilm issues. (Yes/No)
    d. Used sanitiser or acidifier for flushing the water systems. (Yes/No)
3. Has the system been flushed shortly before the delivery of the day-old chickens? (Yes/No)
4. Does the system of drinkers use the same during the different phases of production (chicks to growers)? (Yes/No)
5. Which type of drinkers is in use during rearing? (Bell or Pipe Nipple drinkers)
    a. In pipe nipple drinker, maintain chick drinker angle at 35-45^{0}C up to 14 days & 75-85^{0}C after 14 days (Yes/No)
    b. In bell drinkers, the lip should be at level with the back of birds (Yes/No).
6. What kind of pipe nipples? (Nipple/Cup)
7. Can small birds easily activate the pipe nipples? (Yes/No)
8. Are there enough drinkers/ pipe nipples per bird installed? (Yes/No)
9. Can the birds easily find and drink water? (Yes/No)
10. For day-old chicks, is there enough light to find water from the start? (Yes/No)
11. Is the height of the drinkers correct? (adjust it over time as the chicks will grow) (Yes/No)
12. Are water sources fresh, cool, and clean? (Yes/No)
13. Is there a separate shed tank available for water medication? (Yes/No)
14. Is the quality and quantity of water and delivery system suitable for the type and age of birds? (Yes/No)
15. Is water from a secure and clean underground bore water kept in a closed overhead or shed tank system to avoid any open exposure to the air or contamination? (Yes/No)
16. Do all the water supplies test seasonally to ensure that each facility meets the required standards? (Yes/No)

    a. Are the records of these tests retained? (Yes/No)
    b. Is this process monitored regularly? (Yes/No)
17. Have the water tests have failed in three-monthly testing? (Yes/No)
    a. Is monitoring conducted and recorded daily? (Yes/No)
    b. Is there a suitable maintenance program with sanitiser or acidifier in place? (Yes/No)
18. Is the microbiological validation of treatment systems effectiveness carried out seasonally, or as approved by the processor? (Yes/No)
19. Is there an effective treatment of supplied water implemented to reduce physical contamination? (Yes/No)
20. When water does not meet the standard, are they treated through sanitising & acidifying agents, to ensure the standard is met & checked regularly? (Yes/No)
    a. Is there a water sanitising & acidifying system in place for the production area? (Yes/No)
    b. If the source of water is from different borewells, does the hardness level tested & recorded seasonally from all the sources? (Yes/No)
    c. If sanitisation through chlorination is used, is the chlorine level tested daily and recorded? (Yes/No)
    d. If acidification through an acidifier is used, is the pH level tested daily and recorded? (Yes/No)
    e. Is the dosage of the acidifier and sanitiser decided based on the pH & hardness level of the water? (Yes/No)
    f. During sanitation and acidification of water, is the minimum 30 minutes contact time before use achieved? (Yes/No)
    g. Is the ORP (oxygen reduction potential) being monitored daily to know the efficacy of sanitiser and acidifier efficacy? (Yes/No)
    h. Is the effectiveness of sanitisation and acidification confirmed by independent microbiological testing on a seasonal basis if required? (Yes/No)

i. Are production area records demonstrating the effectiveness of water treatment kept? (Yes/No)

21. Checklist followed for effective and ineffective sanitation & acidification is mentioned below

Effective sanitation and acidification	correct dosage of sanitiser and acidifiers
	an adequate duration of chemical concentration level in water (contact time)
	accurate monitoring (flow rates, dosing volumes and other parameters)
	reliable operation of equipment
	avoiding contamination of water after it has been sanitised & acidified
	adequate water storage facilities
Ineffective sanitation and acidification	intermittent use of sanitation & acidification system
	minimal monitoring of sanitiser and acidifier levels
	open storage systems
	incorrect dosing of sanitiser and acidifier
	inadequate pre-treatment of water
	problematic equipment (or poor maintenance)
	ineffective products
	mixing of rainwater or recycled water with sanitised and acidified water
	inadequate contact time

22. After all the checklists, is the water consumption of the flock monitored regularly or while using the medication water alone? (Yes/No)
23. If water usage remains unchanged for more than a day or two, is the identification of the cause done with a proper checklist? (Yes/No)
    a. Drinker line height (too high/too low)
    b. Air locks in the water system
    c. Water line pressure does not correct for the age of the bird
    d. Clogged water drinkers
    e. Dramatic change in light intensity
    f. Frequent changes in day length
    g. Feed changes or feed outages
    h. Water treatments /additives
    i. Birds are sick
    j. Too many birds per drinker (due to migration or bird placement numbers in the house)
24. Is the signboard hanging inside the shed with Dos and Don'ts of water management? (Yes/No)

Do's	Dont's
☐ Clean drinker twice a day	☐ Do not store water more than one day in shed water tank
☐ Maintain water tank under shade	☐ Do not administer water in bent pipelines
☐ Store water sanitisers in cool and dark places	☐ Do not keep water sanitisers on top of the tank
☐ Daily check out for water sanitisers available in store (Quantity and quality)	☐ Check the compatibility of medicine in drinking water with sanitiser used
☐ Clean the drinker after raking the litter	☐ Do not multi source water to the birds

25. Is a copy of the current water quality parameters manual held in the production area readily available? (Yes/No)
26. Has the staff been given instruction / suitable training in the relevant water quality procedures? (Yes/No)

Even after these issues have been evaluated and handled, mechanical, maintenance, and monitoring considerations including sanitisation and acidification can have an impact on the efficacy of water quality. Identifying discrepancies in water use patterns can be a valuable technique in determining the underlying reasons for performance concerns. Water quality remains one of the most basic and useful measures a poultry owner can employ to track flock progress. Poultry producers can use the mentioned information as a guideline to create a checklist for flock performance, as wellas encouraged to design their usage patterns


CHROMFLEX™ - C
STRESS FREE SUMMER
CHROMFLEX™-C is a unique combination of Chromium Propionate fortified with coated Vitamin C ensuring optimal growth rate, production performance & livability to broiler, layer and breeder birds under stress conditions.
KEMIN®
2023

Avitech

Knowledge | Nutrition | Innovation

Introducing TriSorb®- α

Total mycotoxin management for enhanced feed safety

Avitech Nutrition | info@avitechnutrition.com | www.avitechnutrition.com

IPR Espresso

Bird Flu's Impact on Egg, Milk Markets Varies

Consumers have faced reduced egg supplies and high egg prices. A recent article by University of California, Davis agricultural economists explore the reasons for reduced egg supplies and high egg prices and assess what producers and consumers can expect now that the bird flu, or H5N1, has spread through poultry farms and California dairies.

The authors find that California egg production in December 2024 was 30% lower than in January 2022, while national production, which is the source of most of California's retail supply, had declined by much less. California milk production is also decreasing as the virus sweeps through California dairies, but has not driven up consumer prices because of major differences in the relevant markets.

"Despite California producing more than 15% of U.S. milk, H5N1 has had little or no impact on milk prices because the disease has not substantially affected national milk production," said co-author Daniel Sumner, a Distinguished Professor with the UC Davis Department of Agricultural and Resource Economics. "Most California milk is used for storable, processed products like cheese, milk powders and butter that enter a large global market."

Avian influenza has been around for decades. But in early 2022 a new outbreak of highly pathogenic avian influenza (H5N1) hit flocks of egg-laying hens across the United States, leading to almost continuous outbreaks across multiple states. These outbreaks, and the subsequent loss of hens due to the disease and the long-standing "depopulation" program intended to eradicate the disease, have led to the loss of more than 60 million U.S. egg-laying hens from 2022 through 2024. In California, the disease led to the destruction of around 10.6 million laying hens, with another 1 million table-egg pullets (young hens about to start laying) also destroyed.

Production decreases coincided with the rising egg prices that jumped in 2022 and again dramatically at the end of 2024, with national wholesale egg prices clearing $5 per dozen and California egg prices rising above $7 per dozen. California's regulations state that only cage-free eggs may be produced or sold here, raising average prices in normal times and accounting for higher volatility in egg prices for California consumers.

In August 2024, H5N1 was detected in California dairies and spread rapidly. As of late January 2025, nearly 75% of California herds had been infected. In contrast to its high mortality in birds, H5N1 has mostly produced more mild symptoms in dairy herds. Individual cows are typically asymptomatic after around a month, and milk production, which may fall temporarily by 20% or 30%, takes a few more months to recover. Importantly, even in infected herds, a large share of cows shows no loss of milk production.

The authors estimate that California milk production fell by 6.4%, 10.3%, and 8.4% in October, November and December 2024, compared to what would have occurred without the disease.

While consumers may not feel the effects of H5N1 through rising dairy prices, affected dairy producers have experienced major losses in net returns, which will continue as their herds recover in 2025.

INTERNATIONAL

HPAI Is Top Priority for the Global Poultry Industry

In the International Poultry Welfare Alliance (IPWA) held in Bangkok on 11th March, Nicolo Cinotti, DVM, Secretary General, International Poultry Council said that IPC's top priorities for 2025 are "60% HPAI, 30% AMR (antimicrobioal resistance) and 10% sustainablity". He went on to say that vaccination for HAPI (Highly Pathogenic Avian Influenza) will be an emerging approach for control in 2025". The IPC currently has 19 member countries and 60 member companies from around the globe.

Cinotti characterised HPAI vaccination of breeder ducks in France as "fairly successful". He also said that many countries, including Bangladesh, Mexico, China, Vietnam, Egypt, Indonesia, are vaccinating for HPAI. Cinotti stressed that vaccinating must be put in context of surveillance, biosecurity and flock health. "IPC stands where science and common sense put us, in 2025. IPC clearly states that vaccination is a tool to control AI (avian influenza)", Cinotti said. But also said, "Biosecurity is still the most important aspect of HPAI control".

If funds are available to compensate producers who must euthanise infected flocks, or if brief losses result in excessively high consumer prices for poultry products, poultry producers in a counter could be forced into vaccination for what Cinotti characterised as "economic" reasons. In my opinion the US response to HPAI to table egg layers could fall into this category at some point in the future if the out-break is not stamped out.

The number of wild birds, wild mammals and even dairy cows that have been infected by strains of HPAI is concerning. Cinotti stressed that HPAI is primarily an animal health concern rather than a public health concern, and it is incumbent on the poultry industry to work together to keep it that way.

Cinotti stressed that the poultry industry's license to operate hinges on keeping HPAI from becoming major public health and food safety concerns. He said that the poultry industry needs strong leadership from international organisations. "We need a strong WOAH (World Organisation for Animal Health), WHO (World Health Organisation) and FAO (United National Food and Agri-culture Organisation)", he said.

"No country is implementing 100% of WOAH Standards. Countries need to keep working together, wild birds don't respect international borders. You can't have every country doing its own thing.

"We all hope that the current HPAI epidemics around the world will peter out as wild birds develop immunity and biosecurity and stamping out efforts continue to improve. But the industry needs to do more than hope. Epidemiological research to determine how the virus has been introduced to the farms needs to continue. Any lessons gleaned from this research need to be implemented. Vaccines which have been developed need to be trailed in field conditions and their efficacy tested. The industry needs to work its way out of the current outbreaks and be better prepared for when the virus mutates again and knocks on this door.

Government Implements Strategy to Counter Avian Influenza

A meeting chaired by Alka Upadhaya, Secretary, Department of Animal Husbandry & Dairying, Government of India was organised on 4th April focussing on strategies to control avian influenza outbreaks in the country.

Key Measures Announced:

1. Mandatory Registration: All poultry farms are required to register with their respective state animal husbandry departments within a month
2. Enhanced Biosecurity: Farms must implement strict hygiene practices, control access, and adhere to biosecurity protocols to minimise infection risks

3. Intensified Surveillance: Nationwide monitoring will be increased to promptly identify and address any outbreaks

Additional initiatives undertaken by the government include:

- Vaccination Efforts: The H9N2 vaccine, developed by ICAR-NIHSAD, Bhopal, has been approved for commercial use, with a national study planned to assess its effectiveness. Discussions are ongoing regarding the use of vaccines for Highly Pathogenic Avian Influenza (HPAI)
- Predictive Modeling System: Development of a system for environmental monitoring and early warning to prevent outbreaks
- Compensation Scheme: Under the Livestock Health and Disease Control Programme, farmers will receive compensation for culled birds, destroyed eggs, and feed, with costs shared equally between central and state governments
- feed, with costs shared equally between central and state governments

These measures aim to strengthen India's poultry sector and prevent future avian influenza outbreaks.

Alembic Pharmaceuticals Ltd. and Amlan International Sign Strategic Agreement

Alembic Pharmaceuticals Ltd., a leading Indian pharmaceutical company, and Amlan International, the animal health business of Oil-Dri Corporation of America, have entered into a strategic commercial agreement to introduce cutting-edge poultry health solutions to the Indian market. This collaboration will expand access to advanced feed additives that improve gut health, nutrient absorption, and feed conversion ratios (FCR), ensuring better poultry yields and supporting the industry's growing demand for high-quality protein. It also establishes a framework for knowledge sharing, technical training, and sustainable growth in India's poultry sector.

NATIONAL

Commenting on the association, Shaunak Amin, Managing Director, Alembic Pharmaceuticals Ltd., said, "At Alembic, we have always believed in driving innovation that creates real impact. Partnering with Amlan International is a step towards that goal, allowing us to bring scientifically backed, practical solutions to poultry farmers across India. With Amlan's expertise in toxin binder and gut health, and with our strong presence in the market, we're not just introducing new products, we're addressing key challenges in poultry farming. Our long term goal is to improve efficiency and contribute towards a more sustainable future for the industry."

Dr. W. Wade Robey, VP Agriculture and President, Amlan International, USA added "This strong foundation of partnership will open the door with innovative and research based products broadly reaching India's poultry and feed milling sector. It is a pleasure for Amlan International to collaborate with Alembic Pharmaceuticals India that has a strong legacy with a global footprint. This agreement will lay the framework for cultivating success through strong collaboration, continuous learning, knowledge sharing, and an innovative range of products to enhance poultry productivity."

A Nationwide Maize Survey

Maize is a vital raw material for India's poultry sector, making the industry heavily grain-dependent. With rising pressure from ethanol production and growing poultry demand, sustainability hinges on reliable maize data. To address this, a three-year digital maize production project has been initiated, covering 95% of India's maize-growing regions across 207 districts. Using GIS, satellite tech, machine learning, and real-time dashboards, the initiative will track acreage, crop health, and yield forecasts across Kharif, Rabi, and Zaid seasons. This data will aid production planning, inform ministries, and influence policy on GM crops, ethanol diversion, and DDGS.

Uniquely, the initiative is funded through a first-of-its-kind crowdfunding effort initiated by Karnataka Poultry Farmers & Breeders Association and supported by CLFMA of India, Poultry Federation of India, Poultry Breeders Coordination Committee (VenCobb), Broiler Coordination Committee, Telangana Poultry Breeders Association, West Bengal Poultry Federation, Maharashtra Breeders Association, Central India VenCobb Broiler Breeders & Hatcheries Association and Odisha Poultry Association. A high-level committee has been formed to oversee implementation. The project aims to ensure the sector's long-term viability through informed decision-making and transparent, accessible data.

Poultry Knowledge® Day

25th Nov. 2025

HICC, NOVOTEL, HYDERABAD

17th EDITION POULTRY INDIA™©

OUR INDUSTRY SHOW

REGISTRATIONS OPEN SHORTLY

Hatching Innovation, Growing Success

Poultry India Expo 2025

Supported by

Indian Magazine Partner

International Magazine Partners

Media Partners

Venue Partner

Supporting Associations

Organised by

E Executive
A Advisory
C Committee

&

IPEMA

YEP!

Poultry Protein www.poultryprotein.com

Poultry Recipes www.poultryrecipes.co.in

Chicken India www.chickenindia.org

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

In Conversation With...

Specialising in sustainable, science-backed solutions for animal health, nutrition, and management, Agrivet Research & Advisory Private Limited (ARAPL) is a key innovator in global animal agriculture. IPR sets up a fireside chat with Dr. Sayantani Sihi Arora, Chief Scientific Officer, ARAPL in Kolkata to elaborate on driving Agrivet's vision to provide cutting-edge research solutions and raising the benchmark for scientific excellence in the industry

Established in 2012, Agrivet Research & Advisory Private Limited (ARAPL) is built on strong research, advisory, and knowledge enablement. Bridging research and real-world application, Agrivet offers solutions enhancing efficiency and sustainability for global partners. Its state-of-the-art facility and DSIR/CCSEA registrations underscore its ethical and scientific rigor. The Agrivet School empowers professionals with specialised training. ARAPL also engages in Life Sciences research, utilising zebrafish as a valuable model organism. Leveraging its advanced in-house research facility in their NABL-accredited laboratory and expert advisory services, Agrivet is dedicated to fostering a more efficient, sustainable, and scientifically advanced future for animal agriculture worldwide.

Agrivet Kolkata's Chief Scientific Officer, Dr. Sayantani Sihi Arora is an accomplished scientist and research leader in the field of molecular biology and biotechnology. With a Master's Degree in the subject, she went on the pursue her Ph.D at the premier Bose Institute in Kolkata, after being awarded the prestigious DST-INSPIRE Fellowship. Dr. Sayantani has authored ten peer-reviewed and popular scientific articles, contributing valuable insights to the life sciences domain. As the CSO at Argivet, she leads scientific strategy and oversees all research and innovation activities. In her role she has been instrumental in the design, development and execution of advanced laboratory facilities in Metagenomics, Molecular Biology and Bioinformatics.

IPR **In your opinion, what are the most pressing health challenges in modern poultry farming today?**

SSA Modern poultry farming faces several critical health challenges impacting productivity and bird welfare. Key among them is Antimicrobial Resistance (AMR) due to antibiotic misuse, limiting treatment options. Mycotoxin contamination from climate-affected feed ingredients impairs immunity and performance. Viral diseases like ND, IB, and Avian Influenza (LPAI & HPAI) cause immunosuppression and heavy losses. Heat stress, driven by climate change, hampers growth and reproduction. Frequent viral mutations lead to vaccine failures. Emerging pathogens like Enterococcus cecorum and Orthonobunyaviruses are rising threats. Moreover, diagnostic limitations—such as ELISA insensitivity for subclinical CAV and difficulty detecting latent ILT—highlight the need for advanced molecular tools.

IPR **What are the limitations of traditional diagnostic methods, and how do they impact decision-making for farmers?**

SSA Traditional diagnostic methods like culture, microscopy, and serology are slow, often taking days for results, delaying treatment. They may miss low pathogen loads, fail to differentiate strains, or give false positives, leading to unnecessary costs. Relying on visible symptoms means detection happens after damage is done. These reactive methods lack predictive value, limiting proactive disease control. Additionally, techniques like ELISA depend on human interpretation, leading to inconsistent results due to subjective judgment.

IPR **How do cutting-edge molecular diagnostic tools improve the accuracy and speed of disease detection in poultry?**

SSA Cutting-edge molecular diagnostic tools have reformed poultry disease detection by offering faster, accurate, and sensitive alternatives to traditional methods. Polymerase Chain Reaction (PCR) is the foundation of most molecular diagnostics in poultry health. It amplifies nucleic acid, enabling the detection

of even trace amounts of pathogens with high precision. The detection is completed in hours instead of days, enabling early intervention, thus minimising the outbreak and mortality. Further, it helps in identifying any genetic mutations and emerging variants like variant IBV strains or AI subtypes. This leads to vaccine updates and helps in avoiding vaccine mismatches. Using quantitative PCR (qPCR), pathogen load is measured instead of its presence or absence using conventional detection.

IPR **Can you explain how molecular diagnostics differ from conventional testing methods in terms of precision and efficiency? What are the key diseases in poultry that benefit most from molecular diagnostics?**

SSA Molecular diagnostics differ from conventional methods by detecting pathogen DNA/RNA with high precision, sensitivity, and speed. Unlike traditional tests based on symptoms or phenotypes, they offer objective, automated, and reproducible results, reducing interpretive bias. Though costlier upfront, they are cost-effective in the long run due to early, accurate detection. Key poultry diseases that benefit include AI (LPAI & HPAI), ND, IB, IBD, Mycoplasma spp., Salmonella, Coccidiosis, Reovirus, ILT, CAV, and FAdV. PCR helps in rapid strain differentiation, vital for outbreak control and vaccine monitoring.

IPR **How is Agrivet contributing to the advancement of molecular diagnostics in poultry health management? Could you share some case studies or real-world examples where Agrivet's diagnostics have made a significant impact?**

SSA Agrivet Research & Advisory Pvt. Ltd. is advancing poultry health by offering molecular diagnostics like PCR and RT-PCR for rapid, accurate disease detection. This enables early intervention and reduces economic losses. Through its research centre and Agrivet School, it also conducts applied research and hands-on training in molecular techniques, empowering professionals with practical skills. Real-world impact includes training individuals from reputed institutions in PCR, RT-PCR, ELISA, and modern sampling methods to strengthen poultry disease management.

Case Study: DIVA PCR-Based Diagnosis of Vaccine Strain in Mild MG Symptoms

A commercial layer farm in India reported mild respiratory symptoms-nasal discharge, mild conjunctivitis, and occasional sneezing - in 22-week-old birds. Notably, the flock had been vaccinated with a live Mycoplasma gallisepticum (MG) vaccine at 10 weeks of age.

Due to concerns over possible wild-type MG infection, despite vaccination, a diagnostic investigation was initiated.

The client has decided to use molecular diagnostic tools to determine whether the symptoms were due to: Wild-type MG infection, or residual or replicating vaccine strain. Tracheal swabs were collected from 10 symptomatic birds and were pooled for analysis. Further testing was done in two parts:

- Conventional PCR, targeting the mgc2 gene, which confirms the presence of MG
- DIVA PCR, a more specific and sensitive approach that uses primers that differentiate vaccine strain from wild-type. These are designed to amplify regions unique to wild-type strains, while not amplifying or producing a different product for vaccine strains

Test Result

MG-specific PCR (mgc2)	Positive
DIVA PCR – Wild-type MG	Negative
DIVA PCR – Vaccine strain (e.g., ts-11)	Positive

Interpretation

- MG DNA was detected
- DIVA PCR ruled out wild-type strain
- Mild symptoms were likely due to transient colonisation by vaccine strain, which is not uncommon post-vaccination

The case highlighted the utility of DIVA PCR in:

- Avoiding misdiagnosis of MG infection
- Preventing unnecessary culling or antibiotic use
- Supporting strategic decision-making in flock health management

IPR **How can small and medium-sized poultry farms integrate molecular diagnostics into their routine health management practices?**

SSA Small and medium farms can partner with diagnostic labs like Agrivet instead of setting up in-house facilities. Using tools like FTA cards simplifies sample collection and ensures quality. Starting with high-impact diseases and training staff in sampling techniques enhances reliability. With guidance from veterinarians and access to targeted training, farms can adopt precision-based health management without major infrastructure.

IPR **What are some common misconceptions or barriers that prevent widespread adoption of molecular diagnostics in the industry?**

SSA Many believe molecular diagnostics are only for large farms or are too costly. However, tools like LAMP PCR and FTA cards are now affordable. Others think vaccinated flocks don't need testing—yet DIVA PCR helps differentiate vaccine vs. field strains. There's also overreliance on serology, which detects antibodies, not active infections. Molecular tools detect real-time infections, especially in subclinical cases.

IPR **How do you see the future of disease management in poultry evolving with advancements in diagnostic technology?**

SSA Poultry health will shift from reactive to predictive care. Molecular tools will guide targeted treatments and vaccine choices, while artificial intelligence (AI) will forecast outbreaks. Technologies like metagenomics and 16S rRNA sequencing will monitor gut health early. These innovations will reduce unnecessary treatments, lower antimicrobial use, and promote sustainable farming—with Agrivet supporting access and training.

IPR **What role do data analytics and artificial intelligence play in enhancing the effectiveness of molecular diagnostics?**

SSA AI and data analytics enhance diagnostics by identifying trends, predicting outbreaks, and guiding prevention. Real time - PCR data (e.g., Ct values) can reveal patterns by age, breed, or season. AI models can act as virtual consultants, offering real-time insights, early warnings, and helping farmers make data-driven decisions even without technical expertise.

IPR **What message would you like to convey to poultry farmers regarding the importance of early and accurate disease detection?**

SSA "Diagnose, before disease takes control." Whether you are managing thousands or lakhs of birds, early detection will minimise the losses and will lead to more profit. So, by initial investment on timely and appropriate diagnostics, you can safeguard your birds, your business, and your future. Agrivet is here to support you with simple sampling tools, expert guidance, and real-time insights.

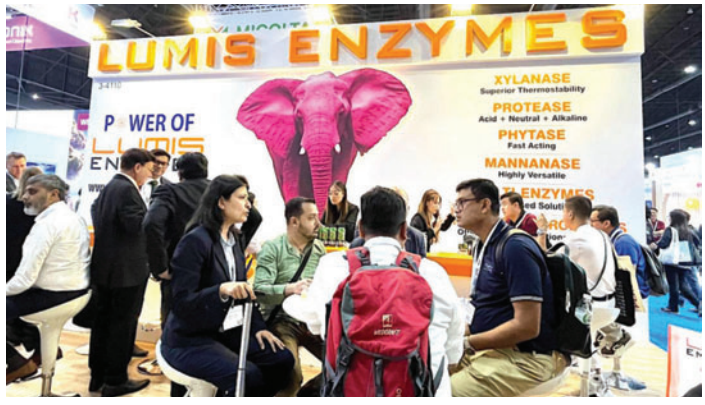
Indian Companies Shine at VIV Asia 2025

VIV Asia 2025 was organised in Bangkok from 12th to 14th March. This is Asia's premier feed-to-food show and the 17th edition attracted over 51,000 visitors from 129 countries and featured 1,500 exhibitors from 63 nations.

This year's expanded format included co-located events Meat Pro Asia and, for the first time, Horti Agri Next (HAN) Asia, creating a comprehensive platform spanning livestock, meat processing, horticulture, and agri-tech. Over 150 knowledge sessions led by 300 experts covered topics from biosecurity to aquaculture innovations.

Many Indian companies participated in this trade show, including Avitech Nutrition, PhyGeno and Lumis Enzymes.

The next edition of VIV Asia is scheduled for March 10–12, 2027.



BOOSTUP

ROSSARI
making you more competitive

Optimizing Growth & Metabolic Efficiency

Boostup is a unique blend of highly bioavailable amino acids, vitamins, micro and macro minerals that are absorbed in the gastrointestinal tract and are utilized for growth, immune function, energy production and maintaining overall health and productivity of the flock.

Improved Feed Conversion Ratio (FCR)
Maximizes nutrient absorption, reducing feed costs

Faster Growth & Weight Gain
Ensures quicker market readiness

Enhanced Egg Production & Shell Quality
More eggs per hen with stronger shells

Stronger Immunity & Disease Resistance
Reduces mortality, boosting farm profits

Optimal Bone & Muscle Development
Ensures healthier, more productive poultry

Nutritional Highlights:

Amino Acids
Enhance growth, muscle formation, and feed efficiency

Vitamins
Boost egg production, metabolism, and immunity

Minerals
Strengthen bones, improve eggshell quality, and support hydration

Boostup Boosts overall health and productivity

Scientifically Formulated

Balanced Nutritional Support

Inclusion level:

Broilers/Layers/Breeders:
1 ml per liter of drinking water

Invest in premium nutrition for higher productivity and maximize your poultry farming profits!

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

IB Group Hosts India's Biggest Poultry Conclave

The Oxford dictionary defines the word Maverick as "an independent, unconventional person." Sitting in the mammoth venue of India's largest poultry conclave at Raipur, organised by IB Group on 8th and 9th April, listening to Founder and Managing Director, Bahadur Ali speak of his journey and his vision for the company and its business partners, one could not think of a more apt moniker for him.

Founded 40 years ago by Bahadur Ali and his elder brother, Chairman, Sultan Ali, IB Group has grown into one of the country's largest agribusiness conglomerates with a turnover of Rs. 11,000 crores, operations across 26 states, 25,000 plus farmers associated with it, 15,000 employees and, 10,000 plus traders.

The two-days conclave (one day for traders and the other for farmers) was aimed at connecting with IB Group's business partners across the value chain, sharing the group's vision, announcing exciting incentive schemes, explaining the importance of technology adoption, awarding achievers and showcasing a wonderful ESG initiative.

Addressing business associates, Bahadur Ali spoke about the humble beginnings of IB Group and how determination and business resilience has brought the group to where it is today – the largest protein company in the country. He stressed that IB Group is much more than a chicken producer; it's a protein provider for the nation, signaling a difference in mindset and positioning. Mr. Ali added that the mission of IB Group is to focus on sustainable protein production through innovation, integration and collaboration. He further said that the group was the pioneer in introducing EC sheds to India, the first to start in-ovo vaccination in India and also the forerunner in digitalisation of systems and

processes for farmers and traders through dedicated apps. Mr. Ali also spoke about the various initiatives undertaken by the group to promote inclusive growth i.e., the organisation acts as a facilitator in wealth creation for the business associates and in turn grows itself, a symbiotic ecosystem. He added that the IB Group currently holds a market share of approximately 18% and his vision is to grow it to 50% within the next few years. Aggressive pace, therefore, is the way forward for the organisation. He added that he has always been beside his business partners and will continue to do so, irrespective of the extraneous factors.

The conclave witnessed the unveiling of *Samriddhi* incentive schemes for traders and farmers by Saurabh Nagpal, Senior Vice President & Head Broiler Integration, IB Group. For traders, the scheme incorporates Turnover Discount (TOD), Billing Discount Scheme (BDS), Bonanza for TOD with attractive prizes and the creation of MD's Club. He also explained in details about the financial model of the *Vistaar* scheme which has been designed to provide a subsidy of Rs. 21 crore for 1000 new poultry vehicles to redefine the poultry distribution system in the country. For farmers, *Samriddhi* involves well-being initiatives designed for the family including children's education, daughter's marriage and the creation of a Rs. 25,000/- fixed deposit for the 1st girl child in the house. The scheme also incentivises farmers through family / solo trips for consistently producing batches according to defined grades.

Neeraj Pandey, Vice President & SAP Head, IB Group addressed the audience on the technological support and innovation that IB Group has incorporated in its operations aimed at creating ease of doing business and transparency for both traders and farmers.

Awards were presented in various categories to eligible traders and farmers by Bahadur Ali, Sultan Ali, Zoya Afreen Alam and Zeeshan Ali.

The conclave also included presentations from State Bank of India and HDFC Bank on the various schemes and financial products that these banks have on offer for those engaged with the poultry business.

Dr. R. K. Jaiswal, President, IB Group delivered a compelling address to the attending farmers. Emphasising the importance of sustainable practices and scientific innovation in modern poultry farming, Dr. Jaiswal highlighted the critical role of biosecurity, feed efficiency and disease management in improving productivity and profitability. He urged farmers to leverage emerging technologies in a rapidly evolving industry. His address also underscored the significance of farmer education and skill development.

Dr. Poulomi Banerjee, Vice President & ESG Lead, IB Group presented *Asmita*, an initiative to encourage and create poultry entrepreneurship among tribal and rural women with the objective of empowering the local economy. *Asmita* is a collaborative effort of IB Group, the local district administration and women members.

Uday Singh Bayas, President, Indian Poultry Equipment Manufacturers Association (IPEMA), addressed the congregation and encouraged all attendees to visit the 17th Poultry India show from 26th to 28th November at Hyderabad.

The conclave concluded on a high note, leaving attendees inspired. With two days of insightful sessions, the conclave successfully fostered dialogue on innovation, sustainability, and growth. The participants left with renewed motivation, practical knowledge, and a strong sense of community. As the curtains fell on the event, the conclave reaffirmed IB Group's commitment to empowering stakeholders and advancing the future of poultry farming in India.

IPR Knowledge Review at Bhubaneswar Explores Sustainable Poultry Farming Strategies

The 2024-25 IPR Knowledge Review series concluded with a seminar titled, "Sustainable Poultry Farming: Reducing Environmental Impact and Maximising Efficiency" at Bhubaneswar on 29th March. The seminar attracted stalwarts of the poultry industry, academicians and policymakers, fostering in-depth discussions.

With the sector witnessing rapid expansion, the seminar emphasised the urgency of adopting sustainable practices that balance productivity with environmental stewardship. Key challenges such as feed sustainability, water and waste management, carbon footprint reduction, and the integration of advanced technologies were central themes of the discussions.

Mr. O.P. Singh, Managing Director, ABTL, delivered the Keynote Address. In concluding his address, Mr. Singh stressed that the need of the hour is to elevate the poultry industry through research and technological advancements. Working together, the industry can achieve remarkable success and sustainability.

Speakers at the session included:

- Dr. Vidyasagar Punja, General Manager, V H Group
- Prof. (Dr.) P. K. Shukla, Professor and Head, Department of Poultry Science, College of Veterinary Science and Animal Husbandry, DUVASU, Mathura & President, Indian Poultry Science Association
- Mr. Naveen Pasuparthy, Chief Farmer, Nanda Group
- Mr. Prashant Kumar, Co-founder and Director, Sapience Group
- Mr. Samarendra Mishra Director, OVO Farm

The speakers advocated for collaborative efforts between industry stakeholders to develop policies that support eco-friendly practices while ensuring business viability. They also emphasised how branding, certification programmes, and transparent communication can help poultry businesses align with evolving consumer preferences for ethically produced, environmentally responsible products. Another major aspect covered in the seminar was the importance of renewable energy adoption in poultry farming to improve efficiency, reduce costs and promote environmental sustainability.

Looking ahead, IPR Knowledge Review will move to newer location with contemporary themes in the 2025-26 series.

IPR Knowledge Review

V H GROUP ABTL sapience south asia JAPFA GLAMAC COURAGE TO REACH HORIZON

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

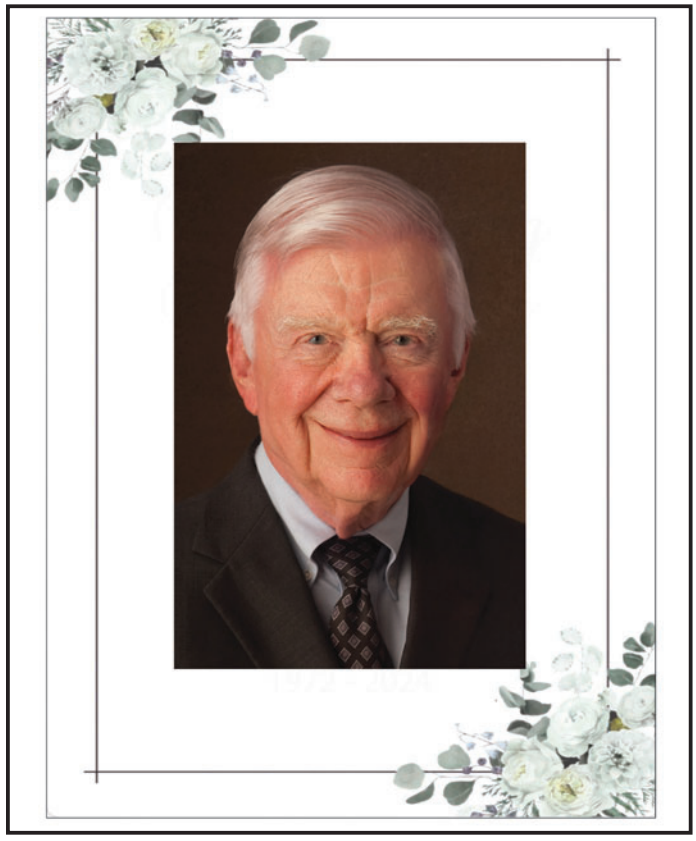
Ph. : 91-33-40638301 | Fax : 91-33-40638315 | E-mail : hitechhatchfresh@rediffmail.com | Website : www.hitechhatchfresh.com

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

In Memoriam



R. W. Nelson

28th February 1927 – 7th April 2025

R.W. Nelson, Co-founder and Chairman of the board of Kemin Industries, passed away peacefully at his home in Des Moines, Iowa, on 7th April , 2025 at the age of 98. Born in Kansas City, Missouri on 28th February 1927, Rolland Wade "Bud" Nelson, moved to Des Moines, Iowa at age seven. A graduate of Dowling Catholic High School and Drake University, he studied biology and chemistry, later serving in the U.S. Army Air Corps from 1945 to 1947, stationed in the Philippines at the close of World War II.

In 1961, R.W. and his wife, Mary, co-founded Kemin Industries in their living room with $10,000 and five children in tow. Their dream—to innovate within the agricultural sector—grew into a global enterprise. Today, Kemin is a family-owned multinational supplying over 500 specialty ingredients across human and animal health, pet food, aquaculture, food and crop technologies, biofuels, textiles, and vaccines. With operations in 90 countries and manufacturing facilities worldwide, Kemin reflects R.W.'s enduring commitment to science, sustainability, and service.

R.W. was the holder of four patents and recipient of numerous accolades, including two presidential export awards, the Iowa Biotechnology Association's Entrepreneur Achievement Award (2004), and induction into the Iowa Business Hall of Fame (2006). Yet his success never overshadowed his values. A servant leader, he emphasised Kemin's moral responsibility to improve life and livelihoods globally.

R.W. and Mary became quiet but powerful philanthropic forces. Their contributions supported hundreds of causes locally and globally—from building a primary school in China to disaster recovery in India and Habitat for Humanity projects in Nepal and Brazil. Their impact on Iowa institutions such as Dowling Catholic High School, Drake University, and the Science Centre of Iowa was transformative. In 2019, they received the Robert D. Ray Iowa SHARES Humanitarian Award, honouring their compassionate outreach.

R.W. also served on numerous boards, passionately advocating for education, health, and innovation through affiliations with trade organisations, universities, and community institutions.

"We deeply mourn the passing of R.W.– our family patriarch and one of the visionaries behind Kemin. He was beloved by our family, countless customers around the world, and thousands of Kemin employees whose lives he touched for more than six decades," said Dr. Chris Nelson, President and CEO of Kemin Industries and the eldest son of R.W." He was tirelessly committed to our family, his faith, the community, and was Kemin's most dedicated marketer and sales champion, coming to the office everyday for nearly 60 years. While R.W. will be deeply missed by our family and countless people he impacted worldwide, the breadth of his life's work and dedication to servant leadership is to be celebrated."

AYU-C FORTE

Scientifically formulated combination

Complete package to fight Heat Stress

Protects from every factor responsible for losses from Heat Stress

Prevents Every Aspect Responsible For Loss Due To Heat Stress

The right way to fight Mycoplasma

TILMOGEN

New Generation Semi-synthetic Macrolide Antibiotic

AYUGEN®

PHARMA PVT. LTD.

(An ISO 22000:2018 & GMP Certified Company)

Corporate Office: Ayugen Pharma Pvt. Ltd.
"Aranya," 202, 203, Aamachi Colony, Behind Venky's Express,
Bavdhan Pashan Road, Pune - 411021. India.
Contact No.+91 7387006250
E-mail : info@ayugenpharma.com

EXTENSIVELY TESTED
CLINICALLY PROVEN
PEER REVIEWED

AYUOXY 20

Oxytetracycline HCL 20% w/w

Poultry Feed Supplements

AlphaD3

VITAMIN

Metabolising Peak Performance

Sythetically Produced, Patented Vit. D_3 Metabolite from House of Alura

Alura

A MEMBER OF iluma

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

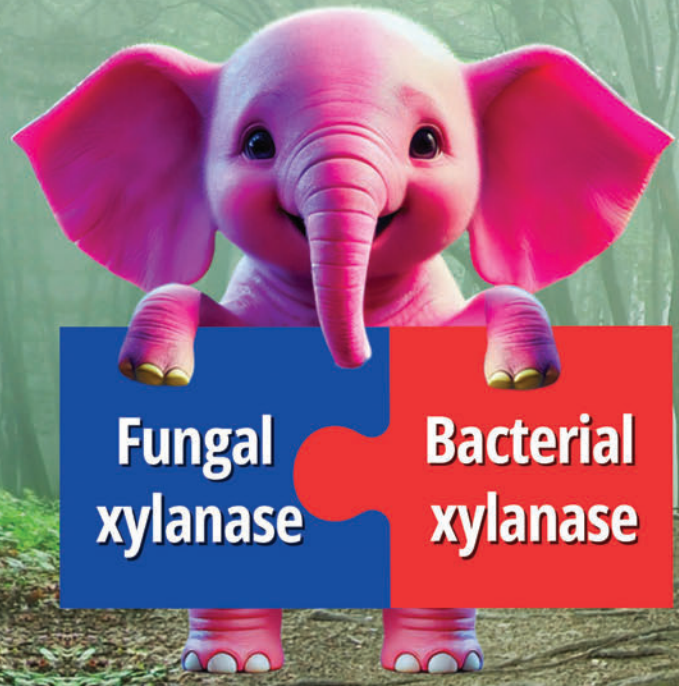
22 R.N. Mukherjee Road, Kolkata - 700001

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

LUMIS ENZYMES

XylaFaB

Unique Combination of Multiple Xylanases



www.xylanase.com

BENEFITS OF XYLAFAB

- ✓ Novel multi-xylanase combination
- ✓ Exceptionally thermostable
- ✓ Contains other NSP enzymes as side activities
- ✓ Releases entrapped nutrients
- ✓ Hydrolyses various NSP's in feed
- ✓ Helps to reduce the feed cost substantially

OUR OTHER UNIQUE PRODUCTS

Pro3ase	LUMIPHYTASE	LumiMan	LBzyme Prime
Acid+Neutral+Alkaline	Fast Acting Phytase	A Versatile Mannanase	Customised Multi-Enzyme
www.protease.com	www.phytases.com	www.mannanase.com	www.feedenzymes.com

info@feedenzymes.com