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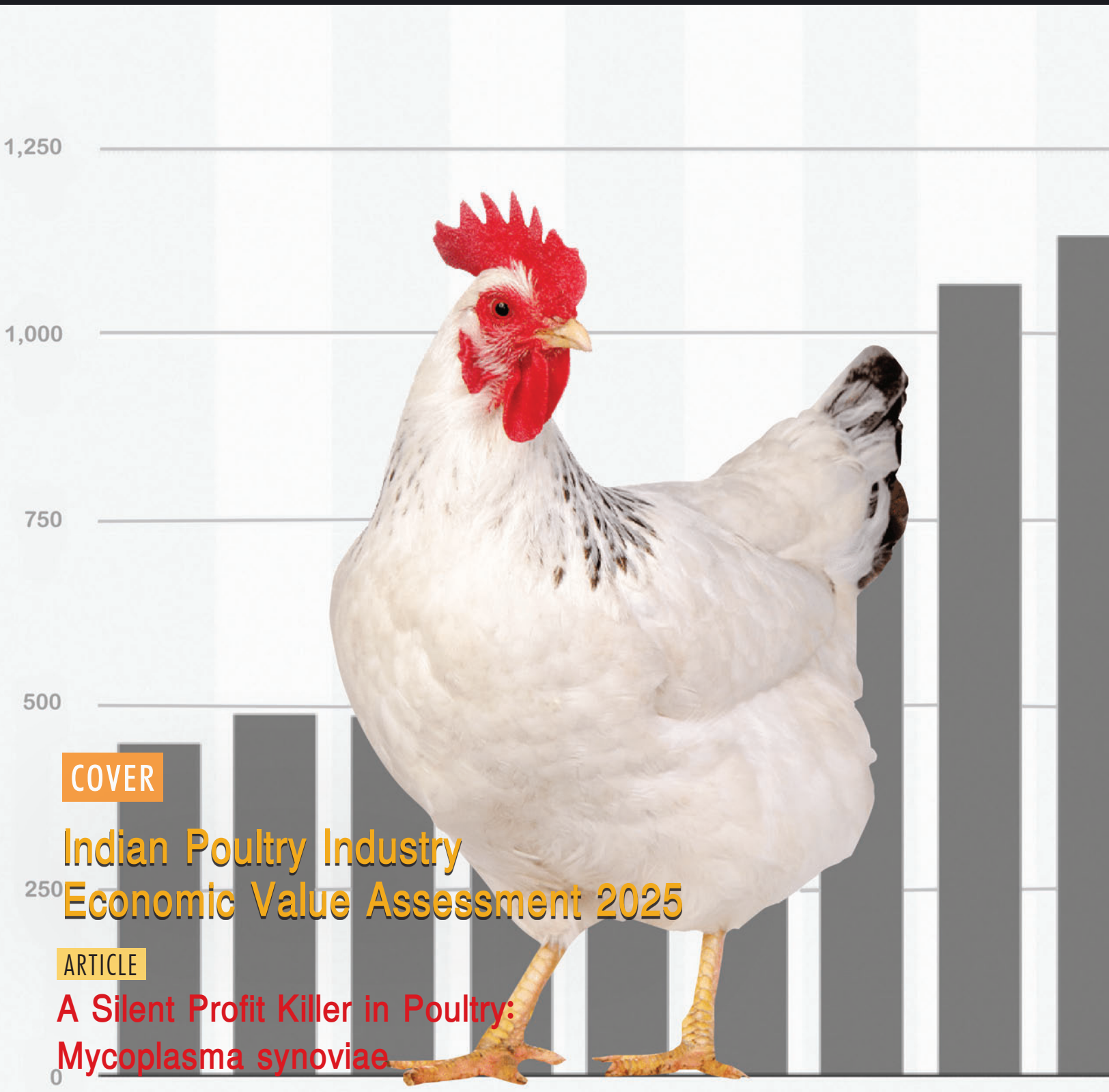
THE MAGAZINE OF INDIAN POULTRY INDUSTRY | NOVEMBER 2025



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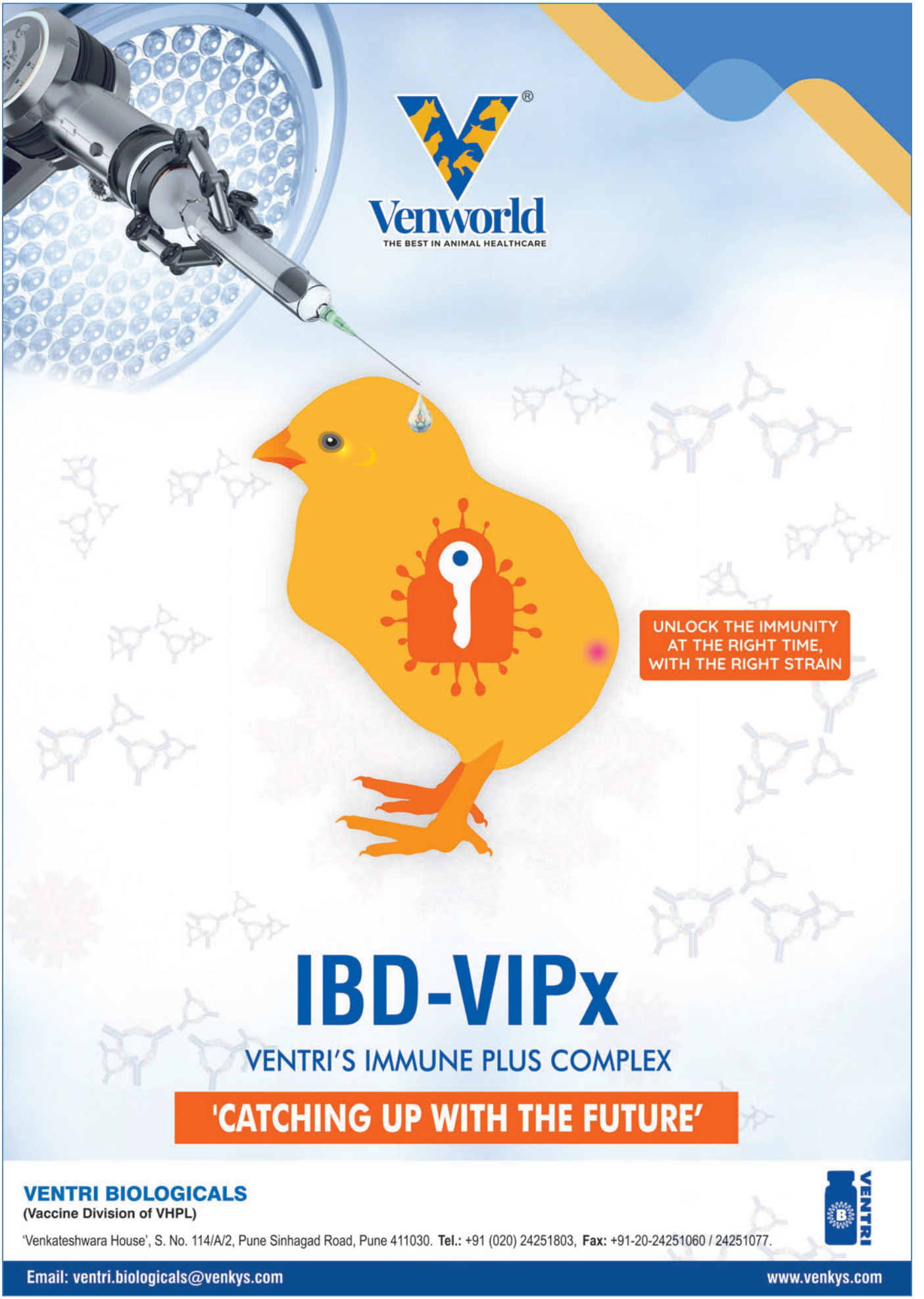
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WHEN ECONOMICS MEETS THE DINNER PLATE: LESSONS FROM INDIA'S POULTRY MARKET

G. N. Ghosh
Managing Editor

Few topics fascinate agri-journalists more than the timeless laws of economics, especially supply and demand. These invisible forces quietly shape what farmers produce, what consumers buy, and what ultimately lands on our plates.

At the heart of it all lies the demand curve — a concept that shows how much of a product people are willing to buy at different prices. Economists divide this into two parts: Market Demand, which reflects what consumers are ready to pay for a product today, and Long-Term Demand, which captures how consumption patterns evolve over time as prices, incomes, and preferences shift.

But real markets are rarely that simple. Demand depends on far more than price alone. Modern marketing, changing lifestyles, and health consciousness all play a role in shaping consumer choices. India's growing urban population, for instance, is becoming increasingly diet-aware. Concerns about red meat and cholesterol have encouraged many to shift from mutton or pork to broiler chicken; not because it's cheaper, but because it's seen as healthier and more convenient.

Economists also like to assume that prices of competing products remain constant, but that's hardly ever true. If egg prices rise, chicken consumption may fall, and vice versa. When pulses become expensive, households often substitute them with affordable protein sources like eggs or poultry meat. This constant balancing act makes India's food economy as dynamic as it is complex.

And then there's income — a crucial driver of demand. Rising disposable incomes, especially among the middle class, have transformed India's protein consumption. What was once an occasional indulgence is now part of the weekly shopping list. Rural markets, too, are showing steady growth as affordability improves and cold-chain access expands.

In the end, the demand for poultry, or any agricultural product, is shaped by more than just numbers. It's a living story of changing aspirations, evolving diets, and the constant dance between economics and human behaviour. Supply and demand may draw the framework, but it's people who bring the market to life.

Study Towards 100% Soy-Free Diets

Dr. Leon Marchal,
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UK

Environmental concerns around land use and land use change (LULUC), as well as high $C0_2$ emissions linked to long distance transport of soybean meal is driving interest in sustainable alternatives. But although partial replacement with ingredients such as rapeseed and sunflower seed meal has had some reported success, producers have not been able to adopt soy-free feed formulations due to reduced animal performance and a significant increase in costs.

The reduced animal performance can be attributed to higher fibre content, lower amino acid digestibility, and antinutritional factors associated with many of the alternative ingredients. These factors are known to have the potential to reduce nutrient digestion, cause the overgrowth of the microbiota (particularly pathogenic bacteria), and damage animal health. Yet, demand is gathering pace. In North West Europe, for example, we see a small but growing trend towards soy-free feed formulations. And almost all producers are looking to increase the amount of by-products and reduce the amount of soy in their broiler diets. Addressing the current limitations and developing effective feed strategies, supported by robust research is, therefore, vital for the industry to realise this ambition.

Study Aims and Method

A study was sought to investigate potential feed solutions by answering four fundamental questions:

- Is it possible to maintain performance - as defined by breeder objectives - using only alternative protein ingredients?
- Will enzymes help to improve the performance of broilers fed SBM-free diets?
- What is the best enzyme/feed additive strategy to achieve the best performance?
- Is it possible to achieve economic equivalence for 100% soy-free diets?

Danisco Animal Nutrition & Health worked on the premise tthat specific enzymes and feed additives could be used to mitigate the known negative effects of alternative ingredients. This assumption was based on existing scientific research carried out over many years in commercial settings. Drawing on this data the following approach was identified:

- Phytase was added in all treatments (at the same dose level) to reduce the antinutritional effect of phytate and improve amino acid (AA) and energy digestibility
- Xylanase and beta-glucanase to improve non-starch polysaccharides (NSP) and fibre digestion
- Protease to increase AA digestion
- Betaine or probiotics (in addition to the enzymes) to improve gut health

In the study, a total of 2,574 Ross 308 male broilers, with 22 birds x 13 floor pens per dietary treatment were used. Nine treatments were developed in total: one commercially- relevant SBM-based diet (control) and eight alternative diets formulated without SBM and soy oil.
The eight SBM-free diets were designed in a 2 x 4 factorial arrangement, with two different levels of crude protein (normal vs low) and each group supplemented with four different combinations of enzymes and additives as follows:

1. 750 U/kg of Danisco xylanase
2. Axtra XB containing 1,200 U/kg xylanase and 152 U/kg of beta-glucanase

Research Abroad

3. Axtra XB + 0.8% Betafin natural betaine
4. Axtra XB + probiotics (Enviva PRO, 150,000 CFU/g).

The experimental design can be summarised as follows:

- SBM (PC): With Axtra PHY GOLD phytase (applied full matrix and phase dosing of 2000,1500 and 1000 FTU/ kg in starter, grower and finisher respectively) and xylanase (at 750 U/kg)
- ALT1: SBM-free basal diet with the same CP level (normal) + 800 U/kg Axtra PRO protease + four different combinations of enzymes and other additives (1a, 1b,1c, Id)
- ALT2: SBM-free diet with CP level reduced by 2-1.5% (low) + 800 U/kg Axtra PRO protease + four different combinations of enzymes and other additives (2a, 2b, 2c, 2d).

The birds were fed ad lib pelleted diets in four phases:

- Starter: 1-10 days
- Grower: 10-21 days
- Finisher 1:21-35 days
- Finisher 2:35-42 days

Encouraging Results

Analysis of key performance parameters found the best performing alternative SBM-free treatment to be the combination of XB + probiotics with low CP on top of phytase and protease (ALT2d). It reached 98.3% for 42-day BW (3,082g vs 3,136g) and 99% for 1-42 day FCR (1.61 vs 1.60), compared to breeder performance objectives.

Equally important is the observation that the same alternative SBM-free diet (ALT2d) was found to maintain the feed cost per kg BW compared to the SBM-based control diet. This was calculated on the accumulated feed cost of each phase and final BW for each treatment, which enabled the statistical treatment to be tested.

These encouraging findings are the first to suggest that SBM could be completely replaced without significantly compromising breeder performance objectives and economics. They also indicate that a reduced crude protein diet, together with the right mix of hydrolytic enzymes and probiotics is a good strategy for more sustainable production. The results are in the process of being published in a scientifically peer- reviewed journal to make the full details available for all who want to partly or fully replace soybean meal.

Given the importance of this concept to the wider industry, we will continue to invest in robust scientific research to determine the optimal enzymes/additives combination to mitigate the negative effects of using alternative ingredients in broiler diets.

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Digital Twin in Poultry Farming: Shaping the Future– A Student's Perspective

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Abstract
Poultry farming is vital for global food security and rural livelihoods but faces challenges like disease, feed optimisation and monitoring. Digital Twin (DT) technology creates a real-time virtual replica of farms using sensors, IoT, AI and cloud computing. It allows continuous monitoring of bird health, environment and behavior while predicting outcomes for disease prevention, feed efficiency and growth.

DT applications include precision farming, health management, optimised feeding and genetic improvement, enhancing welfare, productivity and sustainability. Adoption faces barriers like cost, maintenance, farmer reluctance and data security. Future research could focus on developing cost-effective solutions for small-scale farms particularly in India. Despite these challenges the potential of DT to transform poultry farming is immense offering a pathway to smarter, more profitable, and sustainable production.

Introduction
Poultry farming provides essential nutrition through meat and eggs and supports rural development via jobs and livelihoods. The sector is growing due to technology and profitability.

However, certain challenges remain, including:
- Continuous manual monitoring
- Disease prevention
- Health management
- Feed optimisation

Digital Twin technology addresses these by creating a real-time virtual farm, enabling smarter monitoring, predictive health management and data-driven decisions. Unlike traditional methods, DT helps farmers anticipate problems, cut losses and ensure healthier, sustainable production. This article explores how DT is redefining poultry farming future.

What is a Digital Twin? The Virtual Mirror of a Farm
A digital twin is a dynamic virtual replica of a physical system. In poultry, it mirrors a real farm in real time. It collects data via sensors, cameras and smart devices to track temperature, feed intake, bird movement and health.

As opposed to traditional monitoring techniques, which depend on manual observation, scheduled checks or fixed simulations, a Digital Twin develops gradually with each new bit of data. This enables farmers to anticipate potential issues before they arise, make knowledgeable choices, and simulate "what-if" situations virtually.

For example, a DT can signal a farmer about early indications of heat stress, disease infestations or feeding wastage issues that may go unnoticed in conventional manual monitoring.

Main Components of a Digital Twin in Poultry Farming
1. **Physical Components**
   The physical asset is the foundation of a Digital Twin, representing the real-world objects and systems in a poultry farm. These include:

- Poultry sheds and housing
- Birds
- Feeders, drinkers and egg belts
- Heating, cooling and lighting systems

2. **Digital Replica (Virtual Model)**
   A virtual replica is the digital copy of farm activities. Built from sensor and camera data, using which AI and machine learning create a real-time, interactive model.

Examples

- Virtual bird behaviour simulations
- Environmental conditions (temperature, humidity, airflow)
- 3D housing layout

3. **Sensors and IoT Devices**
   Sensors capture farm data; IoT connects devices and transmits data to the cloud for analysis. Together, they form DT's nervous system.

Examples

- Environmental sensors: temperature, humidity, CO_2, ammonia
- Motion sensors & cameras: track bird activity, feed intake, welfare
- Microphones: detect coughing or distress
- Feed & water meters: monitor consumption
- Wearables & smart scales: measure stress, temperature and growth

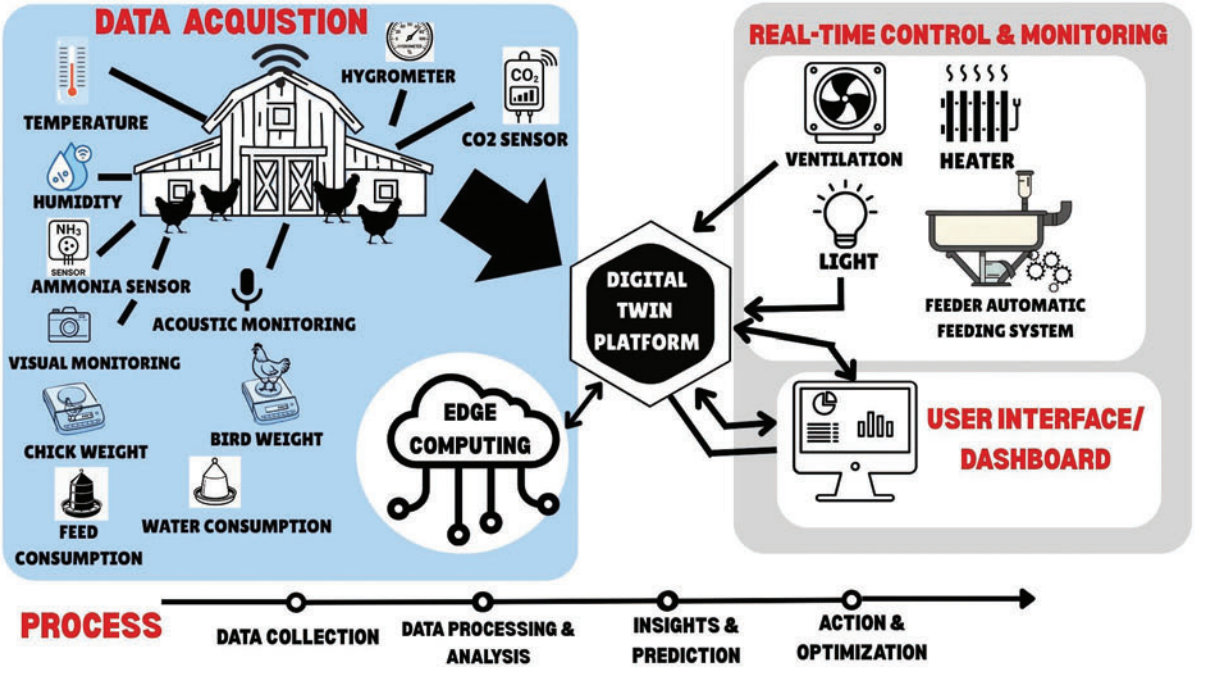
4. **Connectivity & Cloud Integration**
   Data is transmitted to cloud platforms for storage and analysis. Benefits include real-time and remote monitoring, predictive analytics and historical records.

5. **Artificial Intelligence (AI) & Machine Learning**
   AI is the brain of DT analysing data, detecting patterns and predicting outcomes. It enables early disease detection, growth and egg production forecasting, condition optimisation, action recommendations and welfare monitoring. AI transforms raw data into insights, making poultry farming efficient, profitable and sustainable.

Working of Digital Twin in a Poultry Farm
The digital twin has interconnected components that convert raw farm data into smarter decisions that improve efficiency, health and productivity. The main components are:

- Sensors that capture bird health, feed and environmental data
- IoT transmits data to the cloud
- The digital twin updates in real time, mirroring farm conditions

Indian Research



- AI analyses patterns, detecting issues like low water intake or abnormal movement
- Alerts with recommended actions reach the farmer's dashboard
- "What-if" scenarios can be tested virtually before real-world implementation

Applications of Digital Twin in Poultry Farming

1. **Precision Farming & Smart Monitoring**
   DT tracks temperature, humidity, CO_2 and bird behaviour without constant manual checks. It improves efficiency, welfare, feeding schedules and reduces wastage. Cloud and IoT enable remote processing and predictive analytics.

2. **Disease Prevention & Health Management**
   Early disease detection prevents mortality and poor performance. DT tracks physiological and behavioural patterns in real time, adjusts environmental conditions automatically and provides early warnings, reducing human error and improving flock health.

3. **Feed Optimisation & Growth Improvement**
   Feed efficiency directly affects cost, profitability and growth. DT models feeding behaviour and growth to:

- Predict optimal intake based on AI analysis of health, growth and environment
- Optimise efficiency by adjusting nutrients and reducing waste
- Improve performance through real-time monitoring of body temperature, feed quality and environment

DT makes feeding precise, adaptive, cost-effective and sustainable.

4. **Breeding & Genetic Improvement**
   DT guides accurate genetic selection by predicting offspring performance from parent flock data. Farmers can virtually test outcomes, reducing trial and error, saving time and producing healthier, efficient bird.

Limitations of Digital Twin Technology

1. **Maintenance & Updates**
   Sensors, IoT devices and software need periodic updates. Malfunctioning or old equipment can generate incorrect data and influence decisions.

2. **High Financial Cost**
   Implementation is costly, comprising setup, maintenance and upgrades hence posing challenges to small and medium-scale farmers.

3. **Farmer Reluctance & Switching Costs**
   Their tradition and investment in time and infrastructure make farmers hesitant in adopting DT, thereby slowing down its adoption in poultry production. Also the farmers could need training to use DT dashboards and act on AI suggestions.

4. **Cybersecurity & Data Privacy**
   Cloud-based DT systems are vulnerable to cyber-attacks, exposing sensitive farm information and raising privacy issues.

Conclusion

Digital Twin technology integrates sensors, IoT, AI and cloud systems for smarter decisions, proactive disease prevention, optimised feeding, targeted genetic improvement. While cost, maintenance and farmer hesitation are challenges the benefits outweigh limitations. Future research could focus on developing cost-effective solutions for small-scale farms particularly in India.

If achieved DT can ensure healthier flocks, reduce losses and promote sustainable practices. As a student, I see DT not as a luxury but a necessity shaping the future of poultry farming. Though adoption may be challenging, the promise of "virtual poultry, The real change" makes it transformative for profitable, efficientand sustainable production.

Virtual Poultry, The Real Change – the future of farming can't wait.

References on Request

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Article

Polyphosphates in Broiler Chicken: What, Why, How Much, and Where

Dr. C. R. Behl[1] and Prof. G. Devegowda[2]
[1]Chairman, Indian Poultry Alliance – Allana
[2]Emeritus Professor, Veterinary College, Bangalore

1. What Are Polyphosphates?

- Food-grade salts of phosphoric acid (e.g., sodium tripolyphosphate, tetrasodium pyrophosphate)
- Classified as processing aids and additives

2. Why Are They Used in Poultry?

- Moisture Retention: Reduces cooking losses, keeps chicken juicy
- Tenderness: Breaks protein cross-links, giving softer texture
- Shelf Life: Slows oxidation and microbial spoilage
- Economic Benefit: Increases yield (weight gain through water binding)

3. Ideal Broiler Size for Value & Tenderness

Very small birds have a high bone-to-meat ratio; very large birds can be tougher and harder to inject uniformly. For most retail/food-service programs, an eviscerated weight of 1.5–2.0 kg. balances meat yield, tenderness, and even injection/tumble performance

4. How Much is Allowed?

- USA (USDA/FDA): Up to 0.5% in the finished poultry product (as phosphorus)
- Common Practice: Chicken injected or marinated with 0.3–0.4% phosphate solution plus salt
- Overuse not Allowed—Excess leads to soapy taste and spongy texture

5. Use in Fresh Chilled Chicken

- Polyphosphates may be used in marinated, chilled, or ready-to-cook poultry to retain juiciness during storage and cooking
- In premium fresh chilled chicken labelled "natural," "organic," or "no additives," polyphosphates are not permitted
- In standard supermarket chilled chicken in the USA, use is common in flavoured or injected products (e.g., "moisture-enhanced," "seasoned," "tender & juicy" chicken)

6. Where Are They Allowed?

- USA: Widely used in frozen, chilled, and processed poultry. Must be declared on label

- India: FSSAI permits in processed meats; less common in fresh chilled chicken

7. Key Takeaway

Polyphosphates are legal, regulated food additives in broiler chicken.

They are most often used in frozen and marinated chilled products to improve juiciness, tenderness, and shelf life. However, "natural" or premium fresh chilled chicken excludes them, as consumers increasingly prefer additive-free labelling

8. General Best Practices

1) Needles thin, sharp, correct depth and calibrate injector regularly for even flow across all needles.
2) Inject fresh chilled chicken (0-4°C, < 48 hrs from slaughter), not frozen-thawed.

   For retail markets in India, keep injection levels 10-12% to balance yield and consumer acceptance.

   Injection 10-15% for whole birds, 15-20% for fillets.
3) Brine: Balance salt-phosphate, not too viscous. (Salt 0.6-0.8% final in meat and Phosphate 0.3-0.4% final)

   Brine must be kept cold (0-2°C) during operation to prevent bacterial growth.

   Sometimes small sugar / dextrose for osmotic balance.
4) Post Injection: Tumble massage 20-30 minutes brine absorbed into muscle + rest in chiller before packing 4-6 Hrs at 0-4°C, stabilises binding and reduces purge (equilibration).
5) Packaging: Cold & tight -sealed. Vacuum pack or MAP can also help reduce visible drip.
6) Ensure Cold Chain integrity: Packing meat warm above 7°C increases purge.

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Article

Novel Technologies in Poultry Health and Productivity

Prof. R. N. Sreenivas Gowda
Former and Founder VC,
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Introduction

In 2025, India's poultry industry is characterised by strong growth projections and a stable outlook, driven by rising income, urbanisation, and a preference for protein-rich foods. The market is expected to see revenue growth of 8-10% in FY2025, supported by investments in value-added products and backward integration. Challenges remain, including managing feed prices and disease outbreaks, but the industry is poised for resilience and growth through technological advancements, sustainable practices, and potential export opportunities. The chicken business has a significant impact on supplying quality animal protein at a cheaper rate. Chicken eggs and chicken meat are both helped along by the industry's commitment to quality control. The industry's players are worried about the healthcare of the birds because of the rising food safety concerns. The poultry sector is able to keep better tabs on the well-being of its chickens, thanks to recent technology breakthroughs. With the use of Internet of Things (IoT)-based wearable sensing devices like accelerometers and gyro devices, avian diseases and chicken health may now be diagnosed via video surveillance, voice observations, and faeces inspections.

Novel technologies for treating diseases in poultry include advanced genetics, microbiome manipulation, new-generation vaccines, and innovative diagnostic tools. These approaches are moving the industry beyond traditional antibiotics to address pressing issues like antimicrobial resistance, emerging pathogens, and improved animal welfare.

Genetic Editing for Disease Resistance

Gene-editing technologies like CRISPR/Cas9 allow for the development of genetically resistant poultry, a permanent and highly effective solution for preventing viral infections.

- Avian Influenza resistance: Scientists have used CRISPR to alter the ANP32A protein in chickens, a crucial host factor for the avian influenza virus (AIV). Edited chickens show significant resistance to infection and limited viral spread
- Avian Leukosis Virus (ALV) resistance: The NHE1 gene, which serves as a receptor for ALV subgroup can be precisely edited using CRISPR to make chickens resistant to the virus
- New vaccine development: CRISPR is also used to engineer multivalent recombinant vaccines, which can protect against several different diseases at once

Technological Advancements

The industry is adopting advanced breeding techniques, automated feeding systems, and climate control in environmentally controlled (EC) sheds to improve efficiency and reduce mortality.

Latest poultry technologies focus on Artificial Intelligence (AI) for monitoring and prediction, automation and robotics for tasks like feeding and waste removal, Internet of Things (IoT) sensors for real-time data on environment and health, and blockchain for supply chain transparency and safety. Other advancements include gene editing to eliminate male chick culling, precision feeding systems, advanced waste management, and sustainable energy solutions to reduce environmental impact. Biosensors and wearable sensors are emerging as essential tools for detecting poultry diseases like avian influenza, Newcastle disease (ND), and infectious bronchitis.

Omics technologies, including genomics, transcriptomics, proteomics, and metabolomics, offer comprehensive molecular insights into poultry health and disease by studying entire sets of DNA, RNA, proteins, and metabolites (Fig.1).

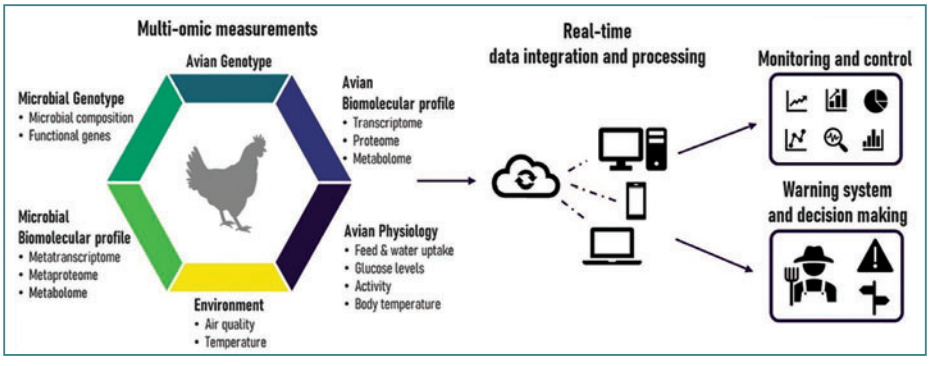

Fig:1.Overview of future integration of multi-omics measurements in precision livestock farming (PLF) technologies. (Source: Goossens, E., Dehau, T., Ducatelle, R., & Van Immerseel, F. (2022). Omics technologies in poultry health and productivity – part 2: future applications in the poultry industry. Avian Pathology, 51(5), 418–423. https://doi.org/10.1080/03079457.2022.2085545)

1. Microbiome manipulation

Targeting the gut microbiome is a key strategy for enhancing immunity and preventing infections, particularly as an alternative to antibiotics. Microbiome manipulations are a promising approach for poultry disease diagnosis by using the microbiota's response to disease as

an indicator of infection and to predict outbreaks. By analysing changes in the microbiome, researchers can identify a "dysbiotic state" (a perturbed microbial community) associated with specific diseases. Novel diagnostic tools are being developed to map the microbiome, enabling rapid and comprehensive data acquisition to assess health risks, sanitation, and the efficacy of treatments.

- **Probiotics and prebiotics**
  The administration of beneficial microorganisms (probiotics) and their food sources (prebiotics) can improve the competitive exclusion of pathogens like Salmonella and Clostridium perfringens. This promotes a healthier gut, better nutrient absorption, and stronger immune response.
- **Synbiotics and postbiotics**
  Research is also exploring synbiotics (combinations of probiotics and prebiotics) and postbiotics (non-viable microbial cells or their components), which offer similar health benefits without the viability challenges of live cultures.
- **Phage therapy**
  Phages, which are viruses that kill bacteria, offer a targeted and natural alternative to antibiotics for treating bacterial infections.
- **Targeted approach**
  Because phages are highly specific to their bacterial hosts, they can eliminate pathogens like Salmonella, Campylobacter, and E. coli while preserving the bird's beneficial gut flora.
- **Combinatorial treatments**
  Phage therapy can be delivered as a "cocktail" of different phages to prevent bacteria from developing resistance. It can be administered orally, through sprays, or as a feed additive.
- **Improved food safety**
  Phages can also be used as a biocontrol agent on farms and in processing plants to reduce contamination of poultry products.

New-generation Vaccines

Advances in vaccine technology offer more potent, stable, and convenient solutions for controlling infectious diseases.

- **Vector vaccines**
  These "Trojan horse" vaccines use a harmless virus (the vector) to deliver protective genes from a pathogen, stimulating a strong and safe immune response. Examples include trivalent vaccines that protect against Marek's, infectious bursal, and Newcastle diseases in a single shot
- **DNA and mRNA vaccines**
  These nucleic acid-based vaccines instruct the bird's cells to produce specific antigens, triggering an immune response. They are quicker to produce than conventional vaccines, and mRNA versions are particularly high-potency
- **Nanostructures in vaccines**
  Nanoparticles are being explored as delivery systems to ensure the controlled release of antigens and enhance the immune response, offering improved efficacy and longer-lasting protection

Precision Poultry Farming

Precision farming technologies enable real-time health monitoring and early disease detection, allowing for rapid intervention.

- Biosensors and wearable sensors: Biosensors provide accurate diagnostic information about specific pathogens, while wearable sensors can track physiological and behavioral changes—such as body temperature and movement—to alert farmers to potential infections like avian influenza
- Vocalisation analysis: Artificial intelligence (AI) can analyse flock vocalisations to detect subtle changes indicating respiratory infections like Newcastle disease or infectious bronchitis

Future smart poultry farming stands on 4 P's

1) Precision Management
2) Precision Nutrition
3) Precision Healthcare
4) Precision Biosecurity Measures

1. Precision management in poultry uses technologies like Internet of Things (IoT) sensors, AI, and machine vision to monitor bird health, welfare, and environment in real-time, enabling precise feeding and optimised conditions. This approach improves production efficiency, enhances animal well-being by catching diseases early, reduces waste, and minimises environmental impact, ultimately making poultry farming more sustainable and profitable

2. Precision nutrition in poultry is an advanced strategy that tailors feed to the specific nutrient needs of individual birds or groups, aiming to optimise health, growth, and feed efficiency while reducing environmental impact. This involves precisely matching daily nutrient supply with daily requirements, using modern technology to monitor bird status and deliver customised feeds. Key aspects include accurate ingredient analysis, precise determination of nutrient requirements at different life stages, and careful management to integrate these elements into a practical feeding program.

3. Precision healthcare in poultry involves using data acquisition technologies and automated systems to monitor and manage the health of individual birds or groups in real-time, enabling early disease detection, personalised feeding and treatment, and improved welfare and productivity. Key technologies include individual bird identification, sensors for behavioral and physiological monitoring, machine learning algorithms for data analysis, and precision feeding systems. This approach helps reduce production losses, promotes disease prevention, and supports sustainable poultry production.

4. Precision poultry biosecurity integrates advanced technologies and automated data analysis to create real-time monitoring and control systems, enhancing the prevention and early detection of disease outbreaks in poultry farms. By leveraging sensors, AI, and data-driven insights, precision biosecurity optimises external and internal biosecurity measures, leading to improved bird health, reduced resource waste, and more efficient, sustainable, and profitable poultry production.

Greener technologies in poultry farming include renewable energy sources (like solar panels and wind turbines), waste-to-energy systems (such as biogas digesters for manure), and advanced resource management (using AI and IoT for precision feeding, smart climate control, and water conservation). These technologies reduce greenhouse gas emissions, minimise waste, and lower operational costs, leading to more sustainable and profitable poultry operations.

Conclusion

Novel technologies for poultry disease treatment include targeted therapies like bacteriophage therapy for bacterial infections, advanced vaccine technologies using recombinant DNA for broader protection, and biosensor systems for rapid diagnostic and early disease detection. Artificial intelligence and IoT sensors offer real-time monitoring for early detection, while natural compounds such as botanicals and essential oils are being explored as alternatives to synthetic drugs. Nanoparticles and microencapsulation are also used to improve the stability and delivery of these therapeutic agents.

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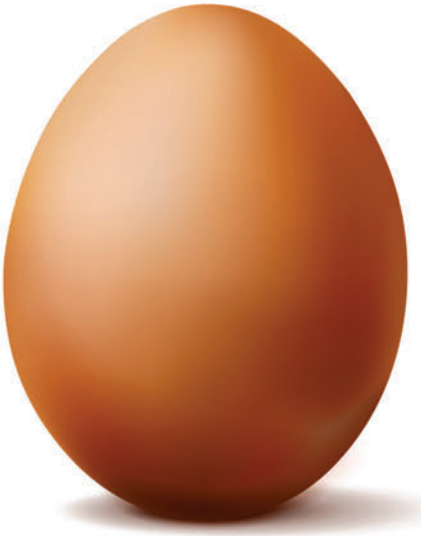

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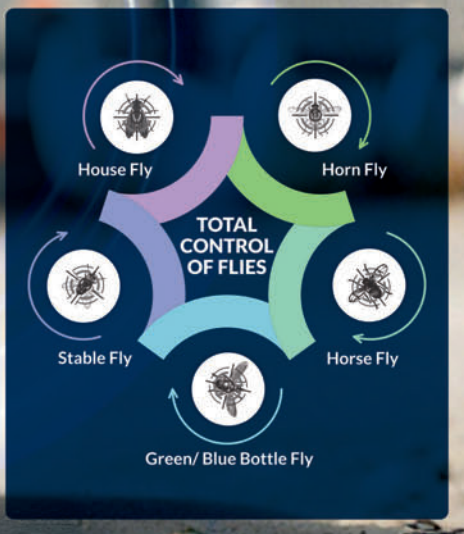

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Indian Poultry Industry Economic Value Assessment 2025

In this landmark assessment, **Suresh Chitturi**, Vice Chairman and Managing Director, Srinivasa Farms, offers a comprehensive and thought-provoking analysis that cuts to the core of India's poultry economy. Backed by an expert industry analysis team, the study maps out a strategic vision and a realistic roadmap revealing how chicken and eggs are poised to become the true engines of transformation, mirroring the nation's evolving consumer aspirations and food habits

The Indian poultry industry stands today as one of the most vibrant and fast-evolving pillars of the nation's agricultural economy. Valued at an estimated Rs. 4.23 trillion (USD 51 billion) in 2025, it encompasses a vast ecosystem that nourishes millions, sustains extensive livelihoods, and exemplifies efficiency, integration, and scale. This article offers a comprehensive, data-driven assessment of the sector's economic value, exploring its production landscape, value chain dynamics, competitive advantages, and growth trajectory crafted for policymakers, investors, and industry stakeholders driving the next chapter of sustainable progress.

After firmly establishing itself as a cornerstone of the nation's food economy, with an estimated total value of Rs. 4,229.20 billion, the Indian poultry industry is a vigorous growth trail. The sector produces an impressive 15.18 million tonnes of live birds and 142.77 billion eggs annually, powered by an extensive ecosystem spanning feed manufacturing, breeding, logistics, and retail networks.

Poultry is no longer a subsidiary activity in Indian agriculture—it is a full-fledged industrial economy.

Primary production, comprising meat and egg output, accounts for 56% of the total industry value, contributing Rs. 2,369.20 billion. The remaining share arises from allied segments such as feed, inputs, processing, and value-added services, reflecting the sector's growing diversification, integration, and structural maturity.

Key Findings

- Total Industry Value: Rs. 4,229.20 billion
- Primary Production: Rs. 2,369.20 billion (56% of total)
- Live Bird Production: 15.18 million tonnes annually
- Egg Production: 142.77 billion eggs annually
- Employment Impact: Over 30 million people directly and indirectly

These figures establish poultry as one of India's most significant agricultural success stories; an industry that combines scale with efficiency and is increasingly aligned with national goals of food security, employment generation, and rural prosperity.

Methodology and Data Sources

Production Parameters: Assessing India's Poultry Output

India's poultry industry continues its strong growth trajectory, underpinned by robust production metrics that affirm its role as a critical component of the nation's food economy. Verified data from the Basic Animal Husbandry Statistics 2024 and key industry sources reveal that India produced an estimated 142.77 billion eggs in 2024, reinforcing its position among the top global egg-producing nations.

In parallel, the country's boneless chicken meat production stood at approximately 8.50 million tonnes, a figure derived from industry-reported processing outputs. Given a boneless yield of 56%, which is considered the modern processing benchmark, this equates to a calculated live bird production of 15.18 million tonnes. These figures collectively illustrate the scale and efficiency of India's integrated poultry value chain — from breeding and feed to processing and retail.

The strong alignment between government data and industry benchmarks reflects not only improved reporting accuracy but also a more formalised production ecosystem. The sustained growth in egg and chicken output is supported by investments in genetics, biosecurity, feed optimisation, and cold-chain logistics,

allowing Indian poultry producers to compete in both domestic and export markets.

As consumer demand for protein-rich foods continues to rise, these production parameters provide a solid foundation for future expansion. With growing urbanisation and evolving consumption habits, the poultry sector's ability to maintain productivity and quality standards will remain key to ensuring food security and supporting India's broader agricultural economy.

Price Benchmarks: Reflecting Market Stability and Value

As of October 2025, India's poultry sector demonstrates a phase of relative price stability, supported by strong consumer demand and efficient farm-level operations. The live broiler farmgate price averaged Rs. 110 per kilogram, reflecting healthy realisations for producers despite moderate fluctuations in feed costs. This benchmark suggests that the poultry meat market continues to offer viable margins across integrated as well as contract farming systems, ensuring sustainability for both small and large-scale farmers.

On the layer side, the NECC-reported farmgate price of eggs stood at Rs. 4.90 per egg, signalling firm demand driven by consistent household consumption and institutional buying. Egg prices have shown resilience through seasonal variations, drven by the growing awareness of eggs as an affordable, high-quality protein source in Indian diets.

According to market research reports and industry estimates, these price levels align with the sector's broader economic performance, where improved efficiencies in production, logistics, and marketing have helped balance input costs. The steady price trends underscore the poultry industry's adaptability to market dynamics, providing confidence to stakeholders across the value chain, from feed suppliers to retailers, that India's poultry sector remains on a solid growth path.

Data Validation

To ensure the reliability and accuracy of the economic assessment, all data presented here have been rigorously validated through multiple credible sources. Key industry metrics were cross-referenced with the IMARC Group's India Poultry Market Report 2024, providing a robust benchmark for production and value trends. Figures were further verified against official government statistics and NECC pricing data to reflect real-time market conditions. Additionally, export-related values were aligned with export-import data from the Ministry of Commerce, ensuring consistency with national trade records. This triangulated validation process strengthens the integrity of the analysis and provides a transparent foundation for strategic decision-making across the poultry value chain.

Industry Value Breakdown: Strength in Core Production

The Indian poultry industry's economic structure in 2025 reveals a robust foundation built on its primary production segment, valued at an estimated Rs. 2,369.20 billion, accounting for 56% of the total industry value. This dominance underscores the sector's dependence on efficient farm-level operations and the growing contribution of organised production systems.

Within this, chicken meat production remains the principal value driver. India's live bird output of 15.18 million tonnes translates into a farmgate value of Rs. 1,669.60 billion, representing 39.50% of the total poultry industry. With a boneless yield of 56%, the country produces about 8.50 million tonnes of processed meat, contributing an additional Rs. 710 billion through processing and value-added activities. This highlights the expanding role of modern processing plants, cold-chain logistics, and ready-to-cook product lines in enhancing profitability and market reach.

On the layer front, egg production remains a steady and vital component. India produced 142.77 billion eggs in 2025, with a farmgate value of Rs. 699.60 billion, or 16.50% of total industry value, based on an average NECC price of Rs. 4.90 per egg. This segment continues to benefit from strong domestic consumption and institutional demand across nutrition and healthcare programs.

Together, these figures reflect the poultry sector's balanced growth, where both meat and egg production contribute significantly to employment, nutrition security, and rural income generation reinforcing poultry's role as a cornerstone of India's agri-food economy.

Input Industries: The Backbone of Poultry Growth

The Indian poultry industry's strength lies not only in its primary production but also in the expansive network of input and allied industries that sustain it. Valued collectively at Rs. 1,255 billion, or 29.70% of the total poultry industry, these sectors form the backbone of the ecosystem — powering efficiency, productivity, and value creation at every level.

At the forefront stands the poultry feed industry, the largest single component of the poultry value chain, with a market size of Rs. 955 billion, representing 22.60% of the total industry value. Feed remains the most critical input influencing production economics, accounting for nearly 60–70% of the total cost of raising birds. The industry's recent advances in feed formulation, amino acid optimisation, and precision nutrition technologies have significantly improved feed conversion ratios (FCR), enhancing profitability for both broiler and layer farmers.

Beyond feed, a suite of supporting services adds further resilience and depth to the value chain. The day-old chick and parent stock segment, valued at Rs. 120 billion, ensures the steady flow of high-quality genetics into commercial operations. Veterinary services and medicines, worth Rs. 80 billion, safeguard flock health, while equipment and infrastructure, valued at Rs. 100 billion, drive modernisation through automation, climate control, and biosecurity systems.

The downstream segment, comprising value addition and services, contributes an additional Rs. 590 billion or 14% of total industry value. Within this, processing and packaging (Rs. 200 billion), cold chain and logistics (Rs. 90 billion), and distribution and retail margins (Rs. 300 billion) represent the evolving face of a consumer-driven market that is rapidly embracing convenience, hygiene, and branded poultry products.

While international trade currently accounts for a modest Rs. 15 billion, the sector holds significant untapped potential. With India's growing compliance with global standards and competitiveness in cost of production, export opportunities for processed poultry and value-added products are expected to expand steadily.

Together, these input industries and service segments form the economic scaffolding that supports India's vibrant poultry economy ensuring its resilience, scalability, and continued contribution to the nation's food security and agribusiness growth.

Comparative Analysis

Processing Value Addition

The chicken meat value chain in India exhibits remarkable value multiplication through advanced processing and product diversification. From live bird to packaged product, each stage adds significant economic worth encompassing slaughtering, deboning, marination, and packaging. Modern processing plants now cater to both domestic and export markets, producing a wide range of ready-to-cook and ready-to-eat products. This transition from raw meat to branded, convenience-focused offerings has not only enhanced profitability but also elevated hygiene

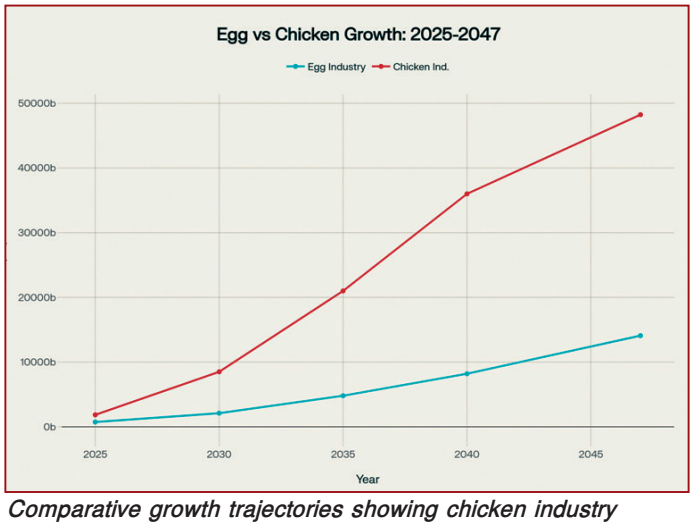
Stage	Volume	Price	Value	Multiplier
Live Birds (Farmgate)	15.18 MT	Rs. 110/kg	Rs.1,669.6B	1.0x
Boneless Retail	8.5 MT	Rs. 280/kg	Rs. 2,380.0B	1.43x
Value addition	-	-	Rs.710.4B	+43%

standards, traceability, and shelf life. As consumer preferences evolve, value addition has emerged as the key driver of growth and differentiation within India's poultry sector.

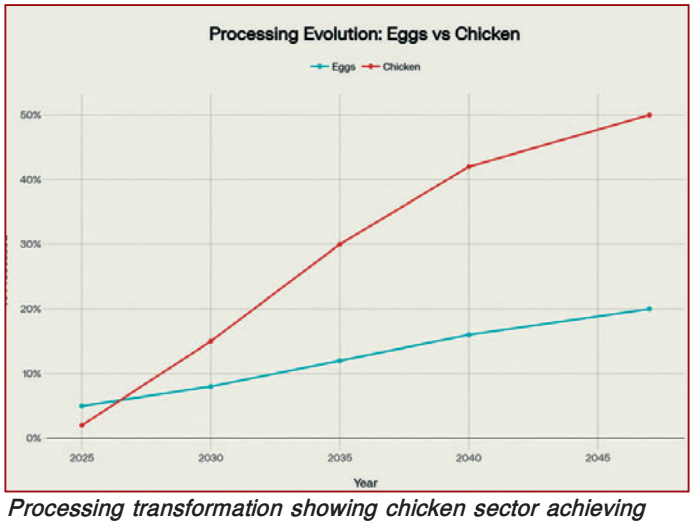
Industry Growth Trajectory

India's poultry industry, currently valued at Rs. 4.23 trillion, continues to strengthen its position as one of the fastest-growing segments within the nation's agrifood economy. The sector's expansion reflects rising protein consumption, improved production efficiencies, and rapid modernisation across breeding, feed, and processing.

Looking ahead, the industry is projected to grow at a compound annual growth rate (CAGR) of 12.60% between 2025 and 2033, potentially reaching a market value of Rs. 8.43 trillion by 2033. This impressive trajectory underscores poultry's resilience and its pivotal role in meeting India's nutritional needs and driving rural economic transformation.



Comparative growth trajectories showing chicken industry growing faster due to higher processing adoption



Processing transformation showing chicken sector achieving higher processing penetration than eggs

Key Industry Metrics

Economic Impact: Measuring the Poultry Industry's Role in India's Growth

The Indian poultry sector plays a vital role in shaping the country's agrarian and nutritional landscape, contributing approximately 1.2% to India's GDP. Though seemingly modest, this share reflects a high-value, rapidly expanding segment within agriculture that delivers strong economic linkages across production, processing, logistics, and retail. Poultry's growth has been instrumental in driving rural development, employment, and nutritional improvement nationwide.

With an estimated 30 million people employed directly and indirectly, the poultry industry stands as one of the largest generators of non-farm rural jobs. It supports a wide network of farmers, feed millers, transporters, veterinarians, hatcheries, and processors, creating an integrated ecosystem that sustains livelihoods and boosts regional economies. For many small and marginal farmers, poultry provides a reliable and recurring source of cash income, cushioning them against seasonal agricultural risks.

Beyond its economic footprint, poultry is central to India's food security strategy. Eggs and chicken meat are among the most affordable and accessible sources of animal protein, offering high biological value nutrition to millions. The industry's consistent expansion and efficiency improvements have ensured that protein remains within reach of all income groups, making poultry not just an economic engine but also a social equaliser in India's evolving food system.

Production Efficiency: Driving Competitiveness and Sustainability

Production efficiency remains one of the defining strengths of India's poultry sector, directly influencing profitability, competitiveness, and sustainability. The industry's impressive feed conversion ratio (FCR) averaging between 1.8 and 2.0 for broilers reflects substantial progress in genetics, nutrition, and farm management. This means that less than two kilograms of feed are now required to produce one kilogram of live bird weight — a benchmark comparable with global best practices.

In the layer segment, productivity averages between 280 and 300 eggs per bird per cycle, showcasing the success of modern housing systems, balanced nutrition, and improved flock health protocols. Meanwhile, processing efficiency has also improved significantly, with boneless meat yields averaging around 56% of live bird weight — a figure that underscores technological advancement in modern slaughter and deboning operations.

Another critical aspect of efficiency is the rapid expansion of cold chain infrastructure within the organised sector. Investments in temperature-controlled logistics, storage, and retail have reduced post-harvest losses and improved product quality, enabling wider market access for processed and value-added poultry products. Together, these metrics highlight how science-driven efficiency and integrated management practices continue to redefine India's poultry sector as a global leader in productivity and resilience.

Market Structure: Consolidation, Integration, and Technological Advancement

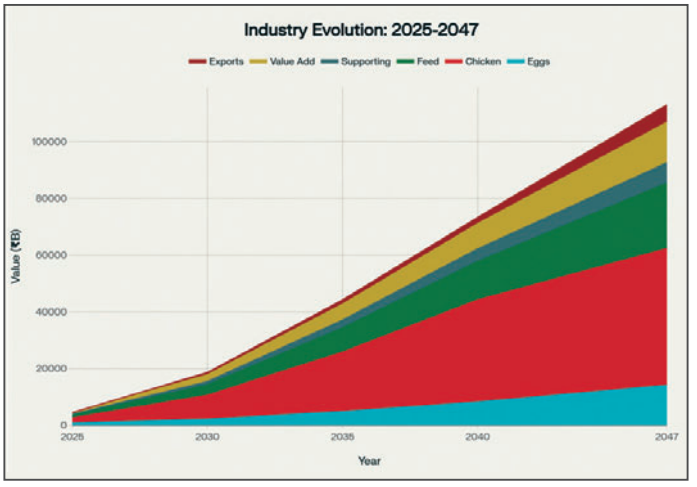
India's poultry industry has evolved into a largely organised and technology-driven sector, with the organised segment now accounting for nearly 70% of total production. This transition reflects growing investments in large-scale commercial farming, integrated supply chains, and branded product development. The unorganised backyard segment, though shrinking, continues to play a crucial role in rural nutrition and livelihoods.

A defining feature of the modern poultry landscape is the

high level of vertical integration among major players. Leading companies control multiple stages of the value chain — from breeding and feed production to processing, packaging, and retail. This model has enhanced operational efficiency, ensured quality consistency, and reduced production volatility.

The industry also exhibits significant regional concentration, with the southern states contributing nearly 60% of national output. Andhra Pradesh, Tamil Nadu, Karnataka, and Telangana remain the growth hubs, supported by favourable climatic conditions, feed availability, and well-established farm infrastructure.

Meanwhile, technology adoption is reshaping industry dynamics. Automation in hatcheries and feed mills, precision farming systems, real-time data monitoring, and digital traceability platforms are becoming increasingly common. Together, these developments signal a mature, forward-looking poultry market — one that is organised, efficient, and poised to meet both domestic and global demand with resilience and innovation.



Complete industry composition showing all segments growing with chicken and feed industries leading

Implications for Industry Stakeholders: Aligning Growth, Efficiency, and Value Creation

The Indian poultry industry's expanding scale and sophistication carry significant implications for all stakeholders — from producers and feed manufacturers to processors and policymakers. Together, they form the interconnected framework driving the sector's economic contribution and long-term sustainability.

For producers, managing costs remains a critical priority. With feed accounting for 22.60% of total industry value, efficiency in feed utilisation directly determines profitability. Producers who adopt data-driven nutrition management and optimise farm operations stand to gain higher margins. Additionally, the value addition multiplier of 1.43x through processing presents strong incentives for producers to integrate forward into processing and branded sales. Larger farms and integrators continue to benefit from economies of scale, reducing per-unit costs and enhancing market competitiveness.

For feed manufacturers, the Rs. 955 billion market offers steady, long-term growth. As feed represents the single largest cost component, innovation in formulations, enzyme supplementation, and amino acid balancing is reshaping production economics. Reliable raw material sourcing and quality assurance remain vital to maintaining consistent feed performance, while sustainable sourcing practices are emerging as a new competitive edge.

For processors, the poultry value chain presents an estimated Rs. 710 billion value addition opportunity. Investment in modern slaughtering, deboning, and packaging technologies enables higher yields and improved product quality. A well-developed cold chain network is increasingly indispensable, ensuring freshness, reducing wastage, and preserving value across logistics and retail. As urban consumers demand more convenience and hygiene, processors are well-positioned to capture premium market segments through innovation and branding.

For policymakers, the poultry sector's Rs. 4.23 trillion contribution to the economy and 30+ million livelihoods supported underline its strategic importance. Despite strong domestic growth, exports remain modest at Rs. 15 billion, revealing substantial untapped potential. Focused policies on trade facilitation, quality certification, and infrastructure can unlock India's global competitiveness in processed poultry. Moreover, poultry remains a pillar of food security, providing India's most affordable and accessible source of animal protein essential for addressing nutritional gaps in both rural and urban populations.

In sum, collaboration across these stakeholder groups combining efficiency, innovation, and policy support will define the next phase of transformation for India's poultry industry, ensuring sustained economic growth and nutritional resilience.

Realistic Strategic Roadmap

Phase 1 (2025-2030): Foundation Building

- Processing Growth: 2% → 15% (achievable with 50% annual growth)
- Industry Value: Rs 4.40T → Rs 18.60T
- Investment: Rs 2.50T per year (peak infrastructure phase)

Phase 2 (2030-2035): Rapid Scaling

- Processing Growth: 15% → 30%
- Industry Value: Rs18.60T → Rs 44.20T
- Focus: Modern facilities, supply chain integration

Phase 3 (2035-2040): Market Leadership

- Processing Growth: 30% → 42%
- Industry Value: Rs 44.20T → Rs 70.30T
- Focus: High-value products, export development

Phase 4 (2040-2047): Global Excellence

- Processing Growth: 42% → 50%
- Industry Value: Rs 70.30T → Rs 1130T
- Focus: Technology leadership, global dominance

Critical Success Factors

1. Infrastructure-First Approach: Build capacity before demand
2. Sectoral Focus: Chicken leads transformation, eggs follow gradually
3. Investment Sequencing: Front-load Rs 2.50T annually (2025-2030)
4. Workforce Development: Train 2M technical staff by 2030
5. Technology Adoption: Achieve 80% automation by 2047

Data Standardisation Recommendations for the Poultry Industry

Reliable and comparable data form the foundation for effective decision-making, investment, and policy development. Standardising metrics across production, trade, and employment ensures accuracy, transparency, and credibility, both within India and in global comparisons. The following recommendations aim to bring consistency and clarity to poultry industry reporting and analysis.

For Industry Reporting

1. **Production Volumes**
   Industry stakeholders should report output using live bird weight

as the primary metric. This provides a uniform reference point across regions and production systems, enabling accurate assessment of national capacity and efficiency trends.

2. **Price Benchmarks**
   To improve consistency, NECC rates for eggs and wholesale market rates for chicken should serve as the standard references for pricing. Aligning with these benchmarks allows uniform valuation of output and aids in better forecasting and market analysis.
3. **Value Chain Analysis**
   Economic evaluations must encompass the entire farm-to-retail spectrum, including breeding, feed, production, processing, logistics, and retail. Such comprehensive valuation captures the sector's true contribution to GDP and employment, offering policymakers and investors a holistic perspective.
4. **Regional Variations**
   Recognising state-wise price differences is essential for realistic financial modelling. Integrating regional data reflects the diversity of input costs, climatic conditions, and consumption patterns across India's poultry landscape.

For Comparative Analysis

1. **Yield Standards**
   A uniform 56% boneless yield should be adopted for processing calculations to ensure consistency in productivity comparisons across plants and geographies. This standardisation minimses discrepancies in assessing value addition and profitability.
2. **Feed Efficiency**
   The industry should consistently report the Feed Conversion Ratio (FCR) as a key indicator of performance. Harmonised FCR reporting enhances benchmarking across farm sizes and breeds, supporting feed innovation and sustainability initiatives.
3. **Employment Metrics**
   To reflect the industry's socio-economic footprint, both direct and indirect employment figures must be included in data reporting. This captures the sector's broader impact on allied industries such as logistics, retail, and equipment manufacturing.
4. **Export Reporting**
   All export data should be reported using FOB (Free on Board) values, offering a globally accepted measure of trade performance. This approach ensures comparability with international standards and strengthens India's position in global poultry trade analysis.

Standardising data practices will not only enhance transparency but also empower the Indian poultry sector with more credible, actionable insights for sustainable growth.

Strategic Priorities and Conclusion

In conclusion, the Indian poultry industry's Rs. 4.23 trillion economic footprint represents a mature, integrated sector with significant growth potential. The industry's contribution extends beyond primary production to encompass a comprehensive ecosystem of supporting industries and services.

As the Indian poultry industry matures into a data-driven, globally competitive ecosystem, setting clear strategic priorities becomes essential for sustained growth and resilience. Building on the foundation of standardised data practices, the sector can now align its long-term vision with measurable, outcome-oriented goals.

1) **Feed Efficiency**
   Enhancing feed conversion ratio (FCR) remains the foremost priority. With feed accounting for nearly one-fourth of total industry value, continuous improvement in feed efficiency directly impacts profitability and resource sustainability. Innovation in feed formulations, enzyme technology, and precision nutrition can further optimise production economics.
2) **Value Addition**
   Greater emphasis on processing and product diversification will unlock new value streams. Expanding processing capacities can multiply value by 1.4 times while ensuring better quality, hygiene, and shelf life. Value addition not only drives revenue but also strengthens India's position in domestic and export markets.
3) **Export Growth**
   India's inherent cost competitiveness and robust production base offer a strategic advantage in global poultry trade. With current exports valued at just Rs.15 billion, there is significant room for expansion through quality certification, market diversification, and brand building in international markets.
4) **Technology Adoption**
   Automation, artificial intelligence, and digital traceability are transforming the way poultry is produced and marketed. Integrating these technologies across breeding, feed, and processing chains will improve productivity, reduce wastage, and enhance supply chain visibility—crucial for both domestic confidence and export credibility.
5) **Sustainability**
   The future of poultry lies in environmentally responsible practices—reducing carbon footprint, optimising water and energy use, and promoting circular resource management. As consumer awareness grows, sustainability will no longer be optional but a competitive imperative.

Together, these strategic priorities define a roadmap for the industry's evolution—from scale and efficiency to innovation and responsibility. Supported by a standardised data framework, the poultry sector can achieve consistent analysis, informed policy development, and cohesive action across all stakeholder organisations.

Despite an impressive 25.40-fold growth, India's poultry sector has remarkably maintained affordability and accessibility. The projected monthly protein cost per person in 2047 is just Rs. 1,488, accounting for only 1.1% of average income, far below the global affordability benchmark of 15%. This balance between growth and affordability has been achieved through moderate processing premiums, about 40% for basic processed products and 75% for high-value offerings, ensuring poultry remains the most economical source of animal protein for Indian consumers.

The Indian poultry industry stands at a criical juncture—poised to balance economic ambition with ecological accountability, and efficiency with equity. By embracing data, technology, and sustainability in equal measure, it can secure its role as a cornerstone of India's food economy and a model for the global livestock sector.

The revised realistic roadmap recognises key ground realities: infrastructure constraints will limit processing growth to a maximum of 50% annually, while the chicken sector will drive transformation, contributing 42.70% of the total 2047 industry value. The egg sector, meanwhile, will grow steadily but gradually, reflecting consumer preferences. Achieving the Rs. 113 trillion target will demand massive, coordinated investments starting now, charting a realistic, infrastructure-aware growth path over the next 22 years.

Data Sources

[1] Government of India - Basic Animal Husbandry Statistics 2024
[2] IMARC Group - India Poultry Market Report 2024-2033
[3] National Egg Coordination Committee (NECC) Price Data
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Article

Poultry: Powerhouse of Protein, Provider of Nutrition Security

SHRIDHAR speaks

Tarun Shridhar
Director General, Indian Chamber of Food and Agriculture, and former Secretary, Ministry of Fisheries, Animal Husbandry and Dairying, Govt.of India

The persistent challenge of global nutrition security necessitates scalable, resource-efficient, and nutrient-dense food solutions. Even though we could justifiably be boastful of our progress, we must recognise that malnutrition remains a persistent global issue; and worryingly for all, the problem is on the rise. It manifests in many different forms, including hunger, micronutrient deficiencies and ironically over-nutrition resulting in overweight and obesity. It has emerged as the single largest contributor to disease in the world, affecting one in three people, and responsible for 22 percent of premature deaths among adults worldwide. Malnutrition in early childhood can affect the child's growth, and physical and intellectual development, productivity during adulthood and even lead to disability and a lower lifespan.

Poultry, encompassing meat and eggs, presents a robust answer, particularly within the dynamic economic and demographic landscape of India. It offers a uniquely scalable, high-efficiency Animal Source Food (ASF) critical for overcoming chronic protein and micronutrient deficits. Its inherent economic advantage, driven by the sector's superior Feed Conversion Ratios (FCR) and increasingly integrated production models, ensures that it remains the most accessible and affordable ASF.

Animal Source Foods are recognised as the best sources of high-quality nutrient-rich food for children aged 6–23 months, says the World Health Organisation (WHO). Compared to plant foods, ASF supply greater quantities of higher quality protein, vitamin A, vitamin D3, iron, iodine, zinc, calcium, folic acid and key essential fatty acids. These also generally contain more iron than plant foods, and consuming ASF with plant-based foods increases the capacity for absorption. Similarly, consuming fish with vegetables increases the absorption of vitamin A. In addition, ASF are the only natural source of vitamin B12, the deficiency of which, prevalent in individuals consuming low amounts of ASF in the developing world, is associated with developmental disorders, anaemia, poorer cognitive function, and lower motor development.

Despite significant economic progress, India faces an endemic nutritional crisis characterised by widespread protein-energy and micronutrient malnutrition. Data from the National Family Health Survey reveals alarming rates of chronic malnutrition among children under five years of age: about 35% suffer from stunting, 19% from wasting; 32% are classified as underweight. These figures present the alarming magnitude of the developmental perversity. Compounding this challenge is the severe public health concern of micronutrient deficiency, particularly anaemia. According to WHO classification, anaemia becomes a severe public health concern when prevalence exceeds 40%. India's prevalence of anaemia among under-five children exceeds this threshold. This underscores a critical need for targeted dietary interventions that supply micronutrients essential for healthy cognitive and physical development. The data overwhelmingly confirms that incremental dietary adjustments are insufficient; instead, large-scale, high-impact nutritional strategies centred on superior food sources are required.

Global demographic trends project that more than 90% of population growth will occur in Low and Middle-Income Countries. This growth is expected to drive a massive increase in demand for low-cost animal protein. Therefore, poultry products are preferred throughout the developing world due to their multiple nutritional values and relative accessibility to resource-poor households. Poultry meat and eggs are dense sources of high-quality protein, lipids, vitamins, minerals, and trace elements, including choline. The products are also accessible through low-cost backyard farming systems, which, in some low-income countries, can account for up to 80% of the poultry population. Poultry's compelling position in nutritional security stems from its unrivalled efficiency in resource utilisation and the superior quality and bioavailability of its nutritional output.

The nutritional quality of poultry products is exceptionally high, offering complete amino acid profiles necessary for human physiological function. The widely accepted Protein Digestibility Corrected Amino Acid Score (PDCAAS) confirms the superiority of egg protein. For whole eggs, the PDCAAS score ranges between 0.97 and 1.0, approaching the maximal score and indicating that egg protein is virtually 100% digestible and matches the human requirement profile for amino acids. Beyond macronutrients, eggs supply bioactive compounds such as choline and lutein. These are critical functional components that support metabolic, cognitive, and cellular functions, offering a more comprehensive nutritional benefit crucial for early childhood development and overall health.

Despite the robust nutritional profile of poultry, actual per capita consumption of poultry products in India remains depressed compared to requirement; in fact, it is among the lowest globally. Annual per capita chicken consumption stands

at around 5 kg, and egg consumption is approximately 100 eggs. This consumption level is notably lower than even that of many other developing nations. The persistence of this consumption-requirement disparity is paradoxical, given that India is a global powerhouse in production. This paradox confirms that the fundamental constraints preventing nutritional security are not rooted solely in production volumes, but rather in systemic issues related to access, distribution, and consumption barriers.

The poultry sector's importance transcends nutrition; it is a critical driver of economic empowerment and poverty alleviation in rural India. In many developing countries, poultry farming provides a viable gateway to the market for smallholder farmers, serving as a regular source of income and fostering economic growth. Poultry farming is particularly suitable for rural populations as it requires minimal land, labour, and capital investment, making it accessible as a subsidiary occupation. The backbone of local food security and household income stability in low-income areas often relies on backyard poultry systems, which involve approximately 30 million rural households in India. The availability of low-cost backyard systems ensures that even resource-poor households can easily access essential Animal Source Foods, contributing significantly to both livelihood and nutrition security.

Eggs, recognised globally as a high-impact intervention food, have been successfully integrated, in a few states, into the Mid-Day Meal (MDM) scheme, the largest school meal program in the world, covering millions of children. The experience of states like Tamil Nadu, where providing three eggs a week per child led to positive results, including reduced primary school dropout rates, demonstrates the efficacy of this strategy. However, the policy surrounding ASF inclusion is inherently unstable and subject to political volatility. Decisions regarding nutritional provision have repeatedly been compromised by non-scientific, localised sentiments. For example, one state government withdrew funding for eggs in its MDM scheme following protests from certain groups. The opposition often centres on religious beliefs and/or caste-based purity arguments rather than rationale. This policy volatility results in direct nutritional inequity, disproportionately affecting the most vulnerable populations. Policy failures to defend evidence-based nutritional science against transient social objections prevent the most vulnerable citizens from accessing healthy nutrition.

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Sustainability of the planet is a burning topic no doubt, but must the debate be to the exclusion of nutritionally deprived and vulnerable populations. A real absurdity is that the livestock sector is routinely vilified as a major contributor to environmental damage and climate change. Powerful voices in the developed world, that matter in establishing global agenda, have begun to question the how and how much of the animal protein we should produce. Perhaps they have missed out that all this while, in other parts of the world, many are experiencing to the extreme, hunger, malnutrition and poverty; and access to sufficient livestock foods is a far cry for them. A vast multitude of women and children in the low, and even middle, income countries are severely impacted adversely by abysmally low consumption of ASF. A perspective inclusive of these concerns is either missing or under-represented in scientific analyses. The discussions on the relationship between ASF production systems and climate change generally tend to degenerate into ideology driven heated slugfest. What is also missing is an understanding of how low the consumption of ASF is among the poor, particularly in low and middle income countries, where the typical diets are starch dominant. For example, mean annual per capita meat consumption in the bottom four meat-consuming countries Sudan, India, Bangladesh, and Ethiopia is less than one-thirtieth of that in the top four Brazil, Uruguay, Australia, and USA. Considering the global power that we are emerging as; this is one club we would not like to be a member of.

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Article

Poultry Probiotics, Allied Factors Influencing Probiotic Performance and the Role of B-Act as a Key Solution for Optimal Gut Health

Technical Team
Huvepharma SEA (Pune) Pvt. Ltd.

Introduction

Modern poultry production depends heavily on intestinal health to achieve high productivity and economic efficiency. The gastrointestinal tract is not merely a digestive organ but a complex ecosystem where microbial, nutritional, and immunological interactions take place. Disturbances in this ecosystem lead to poor feed conversion, growth retardation, and higher disease susceptibility. In this context, probiotics have emerged as vital alternatives to antibiotic growth promoters (AGPs), providing sustainable support to gut health, immunity and performance.

Poultry Probiotics: Concept and Classification

Probiotics are defined as live microorganisms which, when administered in adequate quantities, confer a health benefit on the host. In poultry, commonly used probiotic strains include Lactobacillus, Enterococcus, Bifidobacterium, Saccharomyces and Bacillus species. Among these, Bacillus-based probiotics are particularly attractive due to their ability to form spores, survive pelleting temperatures and maintain stability during feed storage and gastrointestinal transit.

Probiotics are incorporated into feed or water and can be used in broilers, layers, breeders, and even in hatchery or in-ovo applications. Their efficacy depends on strain selection, viability, administration route and compatibility with other feed additives.

Mechanisms of Probiotic Action in Poultry

Probiotics contribute to gut health and performance via several biological mechanisms:

- **Competitive exclusion:** Occupying epithelial binding sites and competing with pathogens for nutrients, thereby reducing colonisation by Salmonella, E. coli, and Clostridium perfringens
- **Antimicrobial production:** Many probiotic bacteria secrete organic acids, hydrogen peroxide and bacteriocins that inhibit harmful bacteria
- **Enzyme secretion:** Especially in Bacillus spp., the production of amylases, proteases, and lipases improves nutrient digestion and absorption
- **Immune modulation:** Probiotics enhance mucosal immunity, increase secretory IgA levels and reduce pro-inflammatory cytokines
- **Gut morphology improvement:** They promote villus height, crypt depth ratio and mucin production, ensuring efficient nutrient uptake and barrier integrity.

Allied Factors Influencing Probiotic Performance

The success of probiotic supplementation is not determined by the product alone. Several allied factors interact to influence probiotic efficacy:

Nutrition Factors

- **Feed quality and composition:** The substrate available in feed influences microbial activity. Diets with high digestibility and low anti-nutritional factors favour probiotic colonisation
- **Feed enzymes:** Supplementation with xylanase, phytase and protease reduces undigested nutrients that could fuel harmful bacteria
- **Protein and energy balance:** Excess protein in the hindgut

encourages pathogenic growth; balanced nutrient formulation complements probiotic function

Water Quality

Efficacy of Probiotics also depend on clean, low-TDS, pathogen-free water for effective colonisation. Chlorinated or contaminated water can reduce probiotic viability.

Environmental and Management Practices

- **Litter management, stocking density and ventilation:** Influence microbial load and stress, which impact probiotic performance
- **Temperature and humidity:** Extreme heat or humidity can predispose birds to gut stress and dysbiosis

Health and Medication Programmes

- **Coccidiosis and enteritis control:** Effective anticoccidial programs reduce intestinal damage, enhancing probiotic colonisation
- **Antibiotic compatibility:** Some antibiotics may inhibit probiotic activity; therefore, strain-specific compatibility is essential

Early-life Microbial Programming

The early establishment of beneficial microbiota (via hatchery sprays or early probiotic administration) provides long-term gut health and performance advantages.

B-Act as a Key Solution for Optimal Gut Health

- B-Act is a probiotic developed by Huvepharma, consisting of a single-strain, spore-forming Bacillus licheniformis (DSM 28710) with a minimum viable count of 3.2 x 10^9CFU/g
- It is formulated to support gut health (intestinal microflora), help maintain gut integrity, aid nutrient digestibility and improve performance in poultry. Along with other beneficial modes of action and metabolites, Bacillus licheniformis is specifically known for producing a peptide called lichenicidin. It is a bacteriocin that inhibits the growth of Clostridium perfringens, the causative agent of necrotic enteritis, and helps in managing dysbacteriosis in poultry gut. Optimum results are achieved when B-Act is administered at 500g per ton of feed
- B-Act has good stability (pelleting temperature, processing, storage, etc.) and does not reduce viability and it is compatible with many other feed additives (antibiotics, coccidiostats)

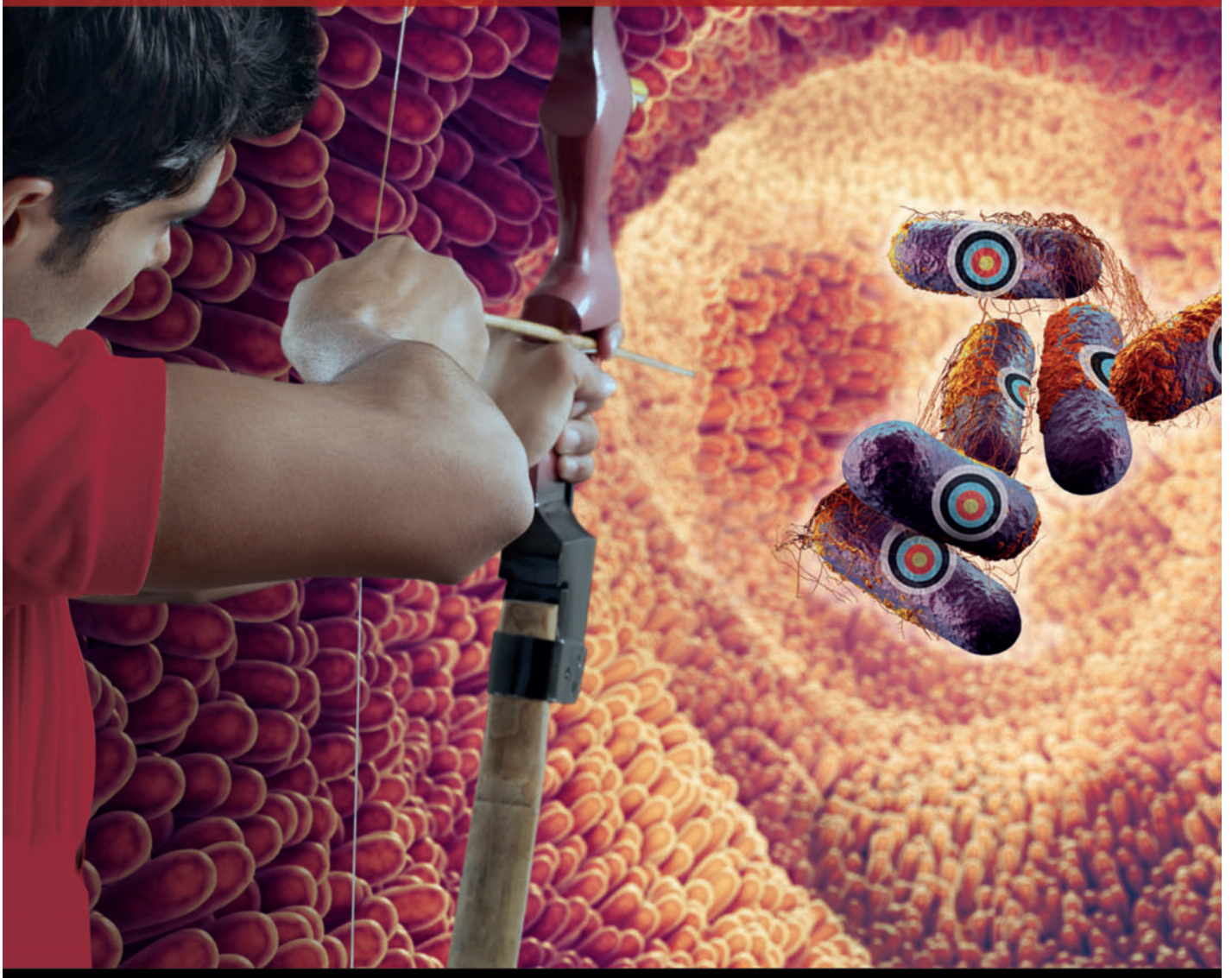
Benefits of using B-Act

- Improved feed conversion, improved body- weight gain in broilers under both normal and challenged (enteric disease) conditions
- For layers: improved egg production, better egg-shell quality, reduced protein excretion in manure (indicating better nutrient utilisation) when using B-Act
- Helps the gut ecosystem by competitive exclusion of pathogens + production of beneficial metabolites (so not just "fill the gut with benign bacteria" but actively influences the microflora environment)
- Economic benefit: use of this product leads to improved ROI

Animal Feed Supplement

B-Act®

Targeted protection



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Article

A Silent Profit Killer in Poultry: Mycoplasma synoviae



Dr. Onkar Paradhe
Product Manager-Vaccines
Dr. Sanjay Singhal
Chief Operating Officer
Stallen South Asia Pvt. Ltd

Mycoplasma synoviae occurs worldwide and is one of the two most consequential avian mycoplasmas alongside Mycoplasma gallinarum, with recognised roles in a variety of illnesses which includes infectious synovitis with joint and tendon-sheath exudation, upper-respiratory infections and a unique laying-hen syndrome marked by decreased production and degrading shell integrity of the eggs known as Eggshell Apex Abnormalities (EAA). Transmission of Mycoplasma synoviae occurs both vertically via eggs and horizontally through close contact, with disease expression exacerbated by co-infections (IBV, NDV and E. coli) and environmental stressors which increases respiratory and systemic involvement. MS is a major global poultry pathogen as it shows an 11% drop in daily egg production with EAA affecting up to 24.5% of eggs in controlled trial infection, underscoring direct productivity and quality losses (*Kursaet al., 2019*). From year 2017 to 2021 a PCR study was conducted in India which showed that Mycoplasma synoviae positivity was around 23.61% (compared to Mycoplasma gallinarum 6.43%) with 15.49% co-infection. This suggests that Mycoplasma synoviae is the most common mycoplasma burden in Indian breeder and layer systems and a persistent economic hazard (*Giramet al., 2022*).

MS-associated EAA has a direct influence on income and biosecurity expenses because it increases cracked and degraded eggs, increases labour costs for sorting and cleanup and decreases hatchability through higher embryonic mortality when shell integrity is compromised. EAA manifests as irregularities at the egg's apex, including thinning, increased translucency and susceptibility to cracks. These defects lead to increased egg breakage and spoilage, directly leading to degrading egg quality and marketability.

Etiology and Transmission

Mycoplasma synoviae, belongs to the Mycoplasmataceae family and is fastidious about its culture conditions as it requires serum and NAD on modified Frey media. The pathogenicity of strains varies due to immune evasion, adhesins, sialidase activity, nitric oxide generation and antigenic diversity.

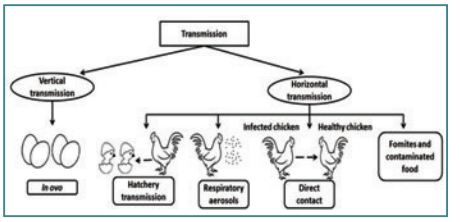


Fig.1: Transmission of M. Synoviae

The host range of the MS infection includes chickens, turkeys, ducks, geese, guinea fowl, pheasants, quail and psittacines. Transmission occurs via both vertical and horizontal route. Vertical transmission takes place through transovarian infection, leading to early chick exposure, while horizontal transmission occurs via aerosol spread, respiratory secretions, fomites and human activity. Once introduced, the infection tends to persist, as infected flocks become lifelong carriers. Multi-age layer systems further support its persistence and contribute to episodic clinical outbreaks.

Pathogenesis

M. synoviae primarily enters the host through the respiratory tract, with the upper respiratory mucosa serving as the initial site of colonisation. With the help of specialised surface proteins and adhesions the organism attaches to the epithelial cells which help it to evade mucociliary clearance. From the respiratory tract, it can spread locally, causing tracheitis, airsacculitis and respiratory distress.

In some birds, the pathogen disseminates via bacteraemia, reaching synovial membranes and joints, where it induces inflammation. This leads to synovitis, characterised by swelling, pain and lameness, often accompanied by exudation of yellowish synovial fluid. The organism may also localise in the tendon sheaths and bursae, producing tenosynovitis. Co-infections with other respiratory pathogens (e.g., E. coli, NDV and IBV) exacerbate disease severity. Chronic infections are common and affected birds may become carriers, serving as reservoirs for flock-to-flock transmission.

Clinical Signs

Mycoplasma synoviae most commonly causes subclinical upper respiratory infections or infectious synovitis and tenosynovitis, while in layers it is also associated with eggshell apex abnormality (EAA) syndrome, characterised by thin, rough, translucent shell apices and intermittent production loss (*Feberwee et al., 2009*). The clinical expression of the disease is often expressed by stress and co-infections with pathogens such as infectious bronchitis virus (IBV), Newcastle disease virus (NDV) and Escherichia coli (*Lockaby et al., 1998*).

Fig.2: Dull, depressed hen, Inflammation of foot pad, hock joint and cavity filled with exudates

Affected birds may show mild respiratory involvement, including slight tracheal rales and sinusitis which are more evident under poor air quality or concurrent respiratory

infections. The musculoskeletal form is marked by lameness, reluctance to walk, swelling of the hock joint, wing joints and footpads with exudative tenosynovitis of tendon sheaths and sternal bursitis. In systemic or severe cases, signs include depression, inappetence, ruffled feathers, weight loss and pale to cyanotic head parts, with occasional vasculitis and keel bursitis. Morbidity typically ranges from low to moderate, while mortality is generally low but may increase in the presence of secondary bacterial infections, wet litter, cold stress and immunosuppression.

Post Mortem Lesions

- **Respiratory tract:**
  - Mild to moderate airsacculitis with thickening, opacity and presence of turbid or caseous exudate
  - Mucoid tracheitis and sinusitis (especially when complicated by co-infections)
- **Joints and musculoskeletal system:**
  - Synovitis: Swollen joints (particularly hock, wing and foot joints) with accumulation of yellow to serofibrinous exudate
  - Tenosynovitis: Inflamed tendon sheaths filled with exudate
  - Sternal bursitis (breast blisters) with fibrinous to caseous material
- **Systemic involvement:**
  - Generalised fibrinous polyserositis in some cases, especially with secondary E. coli infection
  - Emaciation and poor body condition due to chronic disease
- **Eggshell apex abnormality (in layers):**
  - No specific gross lesion in reproductive tract, but post-mortem examination may reveal rough, thin and translucent apices of eggshells in affected flocks

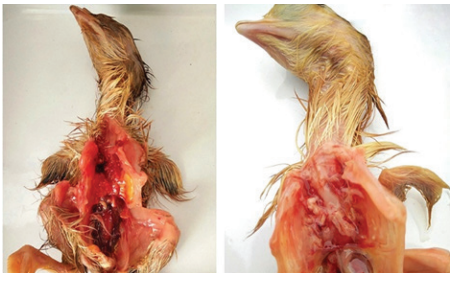


Fig. 3. PM lesion showing Air sacculitis

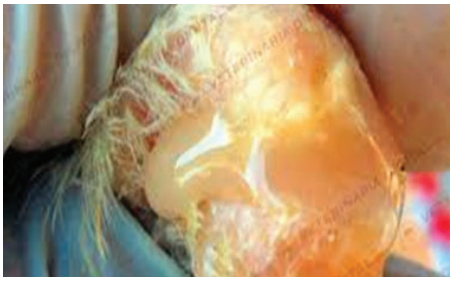


Fig. 4. Exudation of yellowish synovial fluid

Diagnosis

Diagnosis of MS relies on combination of clinical observation, serology, microbiology and molecular techniques. Observation of respiratory signs such as sneezing, coughing and nasal discharge, along with joint or tendon swelling indicative of synovitis or tenosynovitis and specially in layers, eggshell apex abnormalities like thin, rough or translucent apexes can be observed. However, clinical signs alone are not definitive, as they can overlap with other infections like NDV, IBV or E. coli.

Serological tests, including ELISA, rapid plate agglutination (RPA) and hemagglutination inhibition (HI), are useful for flock-level monitoring, though maternal antibodies and past exposure can complicate interpretation. Microbiological isolation from choanal or tracheal swabs and synovial fluid using specialised media allows definitive identification of MS, but the process is slow and prone to contamination. Molecular methods such as PCR and real-time PCR offer rapid, sensitive and specific detection of MS DNA, even at low bacterial loads. For accurate diagnosis, a combination of clinical assessment, serology and molecular confirmation is recommended, especially in flocks showing respiratory disease, joint swelling, or eggshell defects.

Treatment

Along with careful use of antibiotics, proper management practices and vaccination strategies are very important in Myciplasma synoviae management. Treatment typically relies on antimicrobials such as tylosin, tiamulin, doxycycline or enrofloxacin, which can reduce bacterial load and clinical signs, but complete eradication is difficult due to intracellular persistence. Widespread and indiscriminate antibiotic use has led to antimicrobial resistance (AMR) in MS strains because of these challenges, vaccination plays a central role in flock protection, lower bacterial shedding and prevent eggshell apex abnormalities in layers.

Prevention and Control

Prevention focuses on biosecurity measures, including sourcing MS-free breeders, controlling movement of personnel and equipment and minimising stressors that predispose birds to infection. Integrated control combining vaccination, strict biosecurity, monitoring via serology or PCR and responsible antimicrobial use is essential to minimise economic losses, maintain flock health and reduce the risk of AMR development. Thus vaccination, combined with good biosecurity and management practices can control MS spread, minimising antibiotic reliance and maintaining flock productivity.

Stallen South Asia Pvt Ltd is offering a unique inactivated vaccine MS-VAC particularly against Mycoplasma synoviae.

■ Key Features of MS-VAC:

- The only vaccine made from highly immunogenic strains of Mycoplasma synoviae
- High titre (1010 CFU)
- Oil adjuvant
- High immunogenicity.
- High safety, effective protection and field compatibility

■ Duration of Immunity in MS-VAC

MS-VAC is a vaccine produced from highly

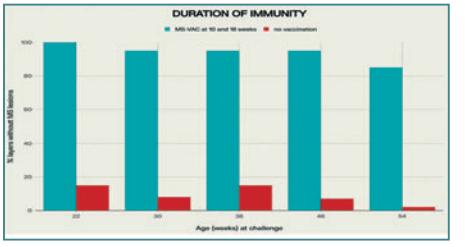


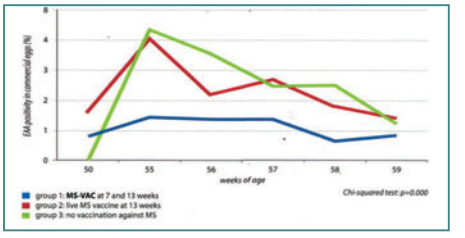
Fig. 5: Duration of immunity in MS-VAC (3 weeks after challenging with virulent MS)

immunogenic strains of Mycoplasma synoviae. The culture is inactivated and emulsified in light mineral oil, to ensure a high degree of protection after first vaccination, however the immunity is strongest and long lasting after second inoculation.

- Clinical observation of egg laid, in vaccinated and non vaccinated commercial hens, after infection by field MS.

■ Field Efficacy of MS-VAC Against Eggshell Apex Abnormalities (EAA)

A significantly lower (p=0,000) percentage



of EAA affected eggs was observed in group 1 than in groups 2 and 3 (statistically significant difference for p<0.001).

Thus, MS-VAC proved to be effective in protecting commercial hens from EAA, significantly more than the competitors, in farms infected with MS.

(References on Request)

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BEST ACHIEVERS
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Northern Region

COMPANY: Sampoorna feeds
FARMER NAME: Mr. Mandeep Singh Maan

SEPTEMBER-2025	Top #1
Farm Type	Closed Shed
State	PUNJAB
Chicks Placed	12073
Mean Age	35.3
Avg Body Wt	2566
FCR	1.391
cFCR	1.265
Livability%	96.8
Daily Gain	72.7
EPEF	505.7

Eastern Region

COMPANY: IB Group
FARMER NAME: Mr. Brajesh Patel

SEPTEMBER-2025	Top #1
Farm Type	Closed Shed
State	BIHAR
Chicks Placed	12113
Mean Age	38.0
Avg Body Wt	2686
FCR	1.429
cFCR	1.277
Livability%	97.8
Daily Gain	70.7
EPEF	483.9

Central Region

COMPANY: Jafpa
FARMER NAME: Mr. Prasad Ashokrao Fhalke

SEPTEMBER-2025	Top #1
Farm Type	Closed Shed
State	MAHARASHTRA
Chicks Placed	15770
Mean Age	34.9
Avg Body Wt	2631
FCR	1.363
cFCR	1.223
Livability%	97.1
Daily Gain	75.4
EPEF	537.1

South Region

COMPANY: IB Group
FARMER NAME: Mr. Avinash Reddy

SEPTEMBER-2025	Top #1
Farm Type	Closed Shed
State	ANDHRA PRADESH
Chicks Placed	22465
Mean Age	35.0
Avg Body Wt	2511.0
FCR	1.444
cFCR	1.330
Livability%	96.2
Daily Gain	71.7
EPEF	477.9

SEPTEMBER-Top PERFORMANCE BY AREA

Area	Chicks Placed	Mean Age	BW	FCR	cFCR(2Kg)	Livability%	Daygain	EPEF
North EC House	12073	35.3	2566	1.391	1.265	96.8	72.7	505.7
North Open House	2328	34.0	2393	1.342	1.255	96.3	70.4	505.1
East EC House	12113	38.0	2686	1.429	1.277	97.8	70.7	483.9
East Open House	2035	38.0	2565	1.324	1.198	93.8	67.5	478.0
Central EC House	15770	34.9	2631	1.363	1.223	97.1	75.4	537.1
Central Open House	3495	31.2	2271	1.383	1.323	97.5	72.8	512.5
South EC House	22465	35.0	2511	1.444	1.330	96.2	71.7	477.9
South Open House	5685	32.2	2160	1.390	1.354	96.7	67.1	466.4

SEPTEMBER-Top 10 FIELD PERFORMANCE

Flock	Farm Type	State	Chicks Placed	Mean Age	BW	FCR	cFCR	Livability%	Day Gain	EPEF
Flock 1	CLOSED SHED	MAHARASHTRA	15770	34.9	2631	1.363	1.223	97.1	75.4	537.1
Flock 2	CLOSED SHED	MAHARASHTRA	14256	34.0	2474	1.345	1.239	95.7	72.8	518.2
Flock 3	CLOSED SHED	MAHARASHTRA	7794	32.8	2300	1.330	1.264	97.9	70.2	516.7
Flock 4	CLOSED SHED	MAHARASHTRA	10384	36.2	2700	1.364	1.209	94.4	74.7	516.5
Flock 5	CLOSED SHED	MAHARASHTRA	11785	31.8	2229	1.335	1.284	97.6	70.1	512.8
Flock 6	OPEN SHED	MAHARASHTRA	3495	31.2	2271	1.383	1.323	97.5	72.8	512.5
Flock 7	CLOSED SHED	MAHARASHTRA	14978	34.7	2572	1.369	1.242	94.6	74.0	511.5
Flock 8	OPEN SHED	MAHARASHTRA	5995	36.3	2684	1.400	1.247	96.6	74.0	510.4
Flock 9	CLOSED SHED	MAHARASHTRA	14078	32.6	2326	1.359	1.287	97.3	71.3	510.2
Flock 10	CLOSED SHED	MAHARASHTRA	11580	32.7	2293	1.341	1.276	97.5	70.2	510.0

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SPACE 2025: A Defining Milestone in Global Livestock Innovation

The 39th edition of SPACE 2025, held from 16th to 18th September at the Rennes Exhibition Centre was a resounding success. Recognised as a premier international platform, the SPACE Exhibition brings together professionals from the poultry, dairy, swine, and aquaculture sectors to exchange knowledge

and explore the latest advancements in animal farming. This year's edition hosted over 1,230 exhibitors from 40 countries and welcomed 102,000 visitors from 125 nations, featuring cutting-edge innovations across 11 specialised halls and a 16-hectare outdoor exhibition area. The next edition of the expo is scheduled for 15th to 17th September 2026, at the Rennes Exhibition Centre, Rennes, France.

France Nears Elimination of Avian Influenza Through Vaccination

The number of cases of avian influenza in the French poultry sector has declined by 96% since the government started a massive vaccination campaign 2 years ago, according to

INTERNATIONAL

the National Research Institute for Agricultural, Food and Environment, INRAE.

At the beginning of October, the third wave of vaccination of thousands of ducks at farms with over 250 animals began. There is one change though: the department of agriculture only pays for 40% of the vaccines while that was 70% last year and 85% in the year the campaigns started.

In previous years, France suffered some major outbreaks of avian influenza, with hundreds of farms affected and millions of ducks or other poultry culled.

In October 2023, the department started its first vaccination campaign – a first in the world – the French authorities say. The campaign was supported by both the World Organisation for Animal Health (WOAH) and the European Commission.

"Vaccination has been recognised by WOAH as an additional tool for controlling the disease, one that must be founded on strict surveillance to demonstrate the absence of circulation of the virus," the Department of Agriculture quotes in a recent document. "Recourse to vaccination should not lead to negative consequences for international trade in so far as member countries follow WOAH standards."

In the EU, France is, so far, still the only country with such a policy.

As a result of the vaccination, there were only 11 cases of avian influenza in commercial poultry, compared to 396 in 2022-2024 and even 1,378 in the previous year, INRAE figures show. France was officially declared free of avian influenza in February this year and has maintained a 'low risk level' since May.

However, the French animal health epidemiological surveillance platform (ESA) warns that the risks of an avian influenza infection from wild birds is still high. Significantly, the United Kingdom registered over 70 cases in poultry holdings in the summer months.

ANSES the French Agency for Food, Environmental and Occupational Health & Safety, was asked before the campaigns started to evaluate several scenarios from the epidemiological stand-point in order to define a strategy for the vaccination of poultry against highly pathogenic avian influenza, the department says in its background notes.

"ANSES' opinion provides a framework for consideration of the implementation of a vaccination campaign, setting out a priority ranking for target populations and geographical areas of application. These scientific factors were then considered alongside the technical, economic and husbandry aspects to arrive at a possible vaccination strategy for preventive purposes, the goal being to prevent the epizootic flaring up once again, while at the same time maintaining control over the impacts on exports, the operational feasibility of the vaccination campaign and the cost."

IPR Espresso

Commemorating Dr. B. V. Rao

Eminent leaders and trailblazers from India's poultry sector convened at the Telangana Poultry Federation, Cull Bird Single Window Regional Building, Hyderabad, on 6th November, his birthday, to celebrate the extraordinary legacy of Dr. B. V. Rao, the visionary whose determination and leadership laid the foundation for India's modern poultry industry.

Dr. Rao transformed Indian poultry into a global powerhouse. As President of the World Poultry Science Association (India Chapter) from 1993 to 1996, he was instrumental in bringing the prestigious XX World Poultry Congress and International Poultry Exhibition to New Delhi in 1996 — a milestone event that marked India's arrival on the global poultry map.

His unwavering dedication, foresight, and lifelong commitment to the growth of the sector continue to inspire generations of poultry professionals and entrepreneurs.

Speaking on the occasion, Uday Singh Bayas, President, IPEMA- Poultry India, said " Dr. B.V. Rao was not just a pioneer — he was a nation builder who believed in empowering farmers through knowledge, innovation, and unity. His vision continues to guide us toward a stronger, self-reliant poultry sector. As he once said, The future of poultry lies in the hands of those who dare to dream and work together."

West Bengal Poultry Federation Celebrates NECC Day

NECC Midnapore Zone and West Bengal Poultry Federation cordially celebrated the birth anniversary of Dr. B. V. Rao, through a meeting at Midnapore.

NATIONAL

Bihar's Proposed New Poultry Hatchery Plants Going to Operate in Coming Season

To overcome its dependency on Andhra Pradesh for getting supply of poultry hatching eggs, Bihar has unveiled an ambitious plan to achieve self-sufficiency in broiler chicks and hatching eggs production.

The state government has approved the construction of 10 new hatchery plants in a move to boost local poultry infrastructure. Currently, only 16 hatcheries operate within Bihar, meeting just 18% of the monthly demand for broiler chicks and eggs. Officials say the state consumes approximately 10 crore chicks and 90 lakh fertile eggs every month.

"Just as Bihar broke Andhra Pradesh's dominance in fish production, we aim to do the same in poultry," a senior official from the Animal and Fisheries Resources Department told reporters.

To support the expansion, the government has sanctioned an initial sum of Rs 11.70 crore. Each hatchery plant will require an investment of Rs 3.50 crore and two and a half acres of land. The facilities will house up to 10,000 chickens, including 9,000 parent hens and 1,000 parent roosters.

Subsidies have been introduced to incentivise private participation, with 40% assistance for SC/ST beneficiaries and 30% for others. The project is expected to create significant employment opportunities in rural Bihar.

Key benefits of the scheme include:

- Increased production of broiler chicks and fertile eggs
- Rise in private-sector hatchery investments
- Greater self-reliance in poultry supply
- Enhanced rural employment
- Strengthened local poultry ecosystem

The initiative reflects Bihar's broader strategy to bolster agri-based self-sufficiency, a model previously implemented with success in fisheries.

Country's Maize Prices Trend Below MSP as Arrivals Pick up Amidst Easing Demand from Ethanol

Maize prices have been trending below the minimum support price (MSP) levels across the country as arrivals pick up amidst expectations of a record crop and easing demand from sectors such as ethanol producers and poultry feed makers.

Modal prices (the price at which majority trade takes place in mandis) across mandis in various states have been ranging between Rs. 1,300-2100 a quintal across, ruling below the MSP of Rs. 2,400 for the kharif 2025 season. As prices trend below MSP, a section of the farmers have been demanding that the government should procure at MSP. Telangana has started procurement at MSP and plans to procure about 8 lakh tonne of the cereal.

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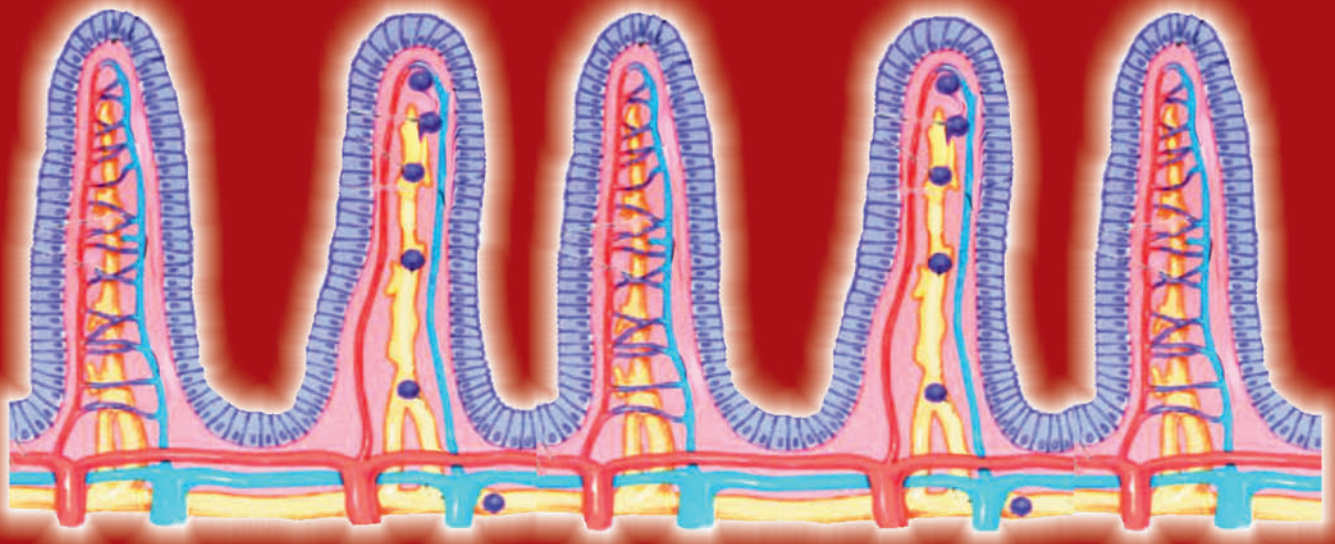

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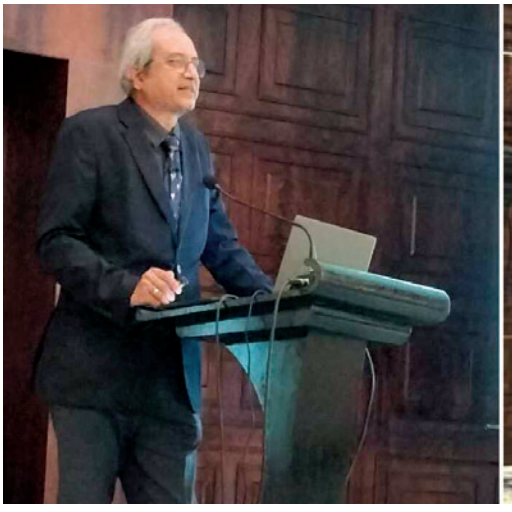
Stallen South Asia Conducts Seminar in Pune



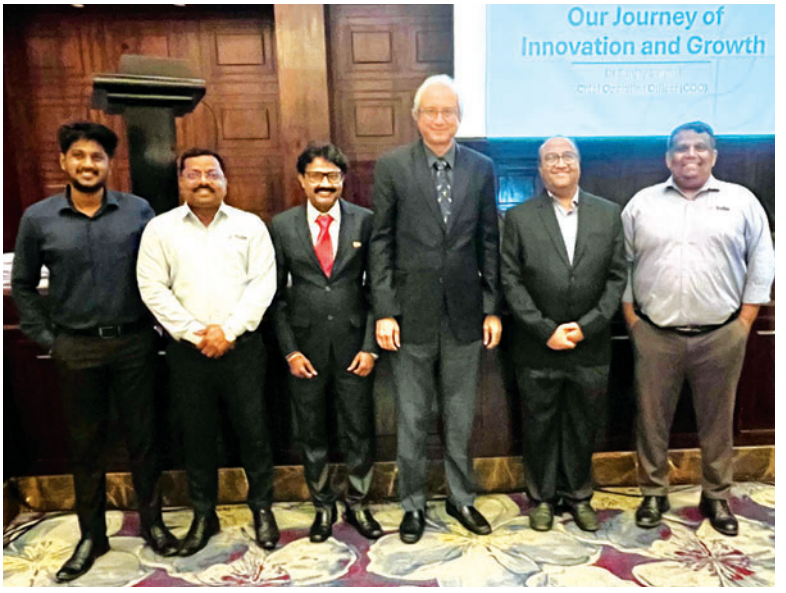
Stallen South Asia Pvt. Ltd. reinforced its commitment to advancing scientific knowledge and modern disease management in poultry by hosting a technical seminar in Pune titled "Comprehensive Flock Protection: Addressing Mycoplasmosis, Infectious Bronchitis & Salmonellosis." More than 80 progressive farmers, consultants, and technical professionals participated, engaging in discussions on emerging disease challenges, new-generation vaccines, and integrated protection strategies for enhanced flock performance.

The seminar began with an address by Dr. Sanjay Singhal, Chief Operating Officer, who recounted Stallen's evolution from a pharmaceutical company in the late 1990s to a biotechnology-led organisation. He highlighted the company's transition from conventional therapeutics to advanced biologicals and vaccines, its collaborations, and upcoming innovations aligned with responsible poultry production.

The keynote presentation by Dr. Jayaraman K, a highly respected poultry health expert, offered a comprehensive overview of the disease triad—Mycoplasmosis, Infectious Bronchitis, and Salmonellosis. He explained how these pathogens interact to impair respiratory health, productivity, and hatchability. His session covered diagnostics, field management, and vaccination protocols, delivering practical, actionable insights that resonated with attendees.

In the concluding technical session, Dr. Kishor Gedam, Product Manager, showcased Stallen's specialised vaccine portfolio, sourced from FATRO, Italy. He highlighted key offerings such as MYC-VAC (MG killed vaccine), MS-VAC (MS killed vaccine), IB-OLVAC (IB + ND killed vaccine), and BIOVAC SGP 695, India's first patented water-administered live vaccine for Salmonella gallinarum/pullorum and enteritidis.

The seminar closed with a vote of thanks by Macchindra Shinde, Regional Sales Manager (West).

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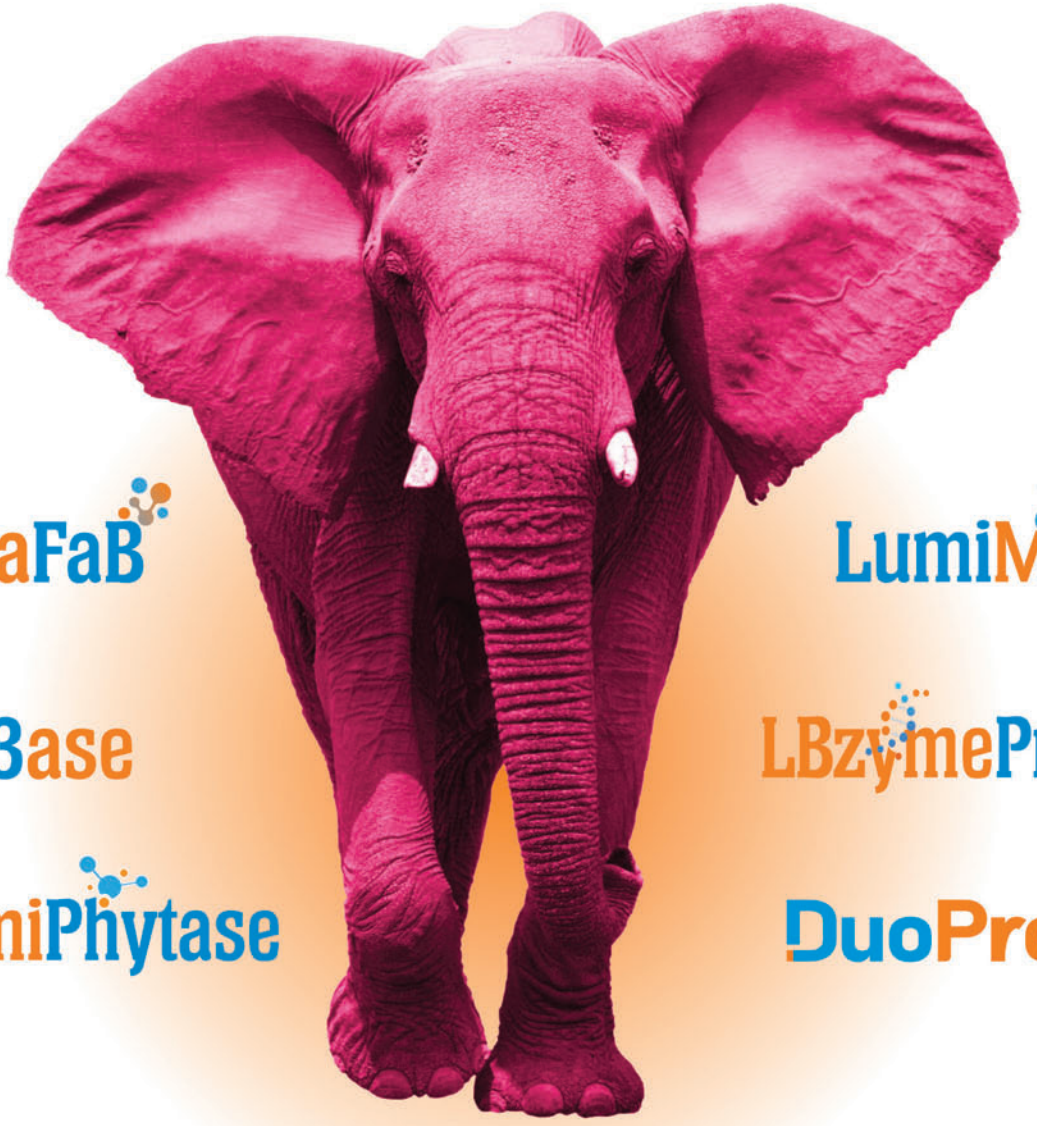

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