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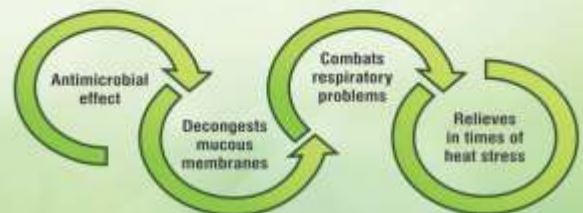


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Northern Region

COMPANY: Sampoorna Feeds FARMER NAME: Mr. Ratnesh Kumar Patel	JANUARY-2026	Top #1
	Farm Type	Open House
	State	UTTAR PRADESH
	Chicks Placed	2520
	Mean Age	32.2
	Avg Body Wt	2576
	FCR	1.400
	cFCR	1.272
	Livability%	95.5
	Daily Gain	79.9
EPEF	545.3	



Eastern Region

COMPANY: IB Group FARMER NAME: Mr. Kanailal Maiti	JANUARY-2026	Top #1
	Farm Type	Open House
	State	WEST BENGAL
	Chicks Placed	1827
	Mean Age	37.0
	Avg Body Wt	2805
	FCR	1.431
	cFCR	1.252
	Livability%	97.4
	Daily Gain	75.8
EPEF	515.8	



Central Region

COMPANY: Japfa FARMER NAME: Mr. Omkar Jalinder Jadhav	JANUARY-2026	Top #1
	Farm Type	EC House
	State	MAHARASHTRA
	Chicks Placed	10171
	Mean Age	32.1
	Avg Body Wt	2440
	FCR	1.372
	cFCR	1.274
	Livability%	97.4
	Daily Gain	76.0
EPEF	539.4	



South Region

COMPANY: IB Group FARMER NAME: Mr. Gudli Venkateshwara Rao	JANUARY-2026	Top #1
	Farm Type	EC House
	State	ANDHRA PRADESH
	Chicks Placed	19962
	Mean Age	34.0
	Avg Body Wt	2463
	FCR	1.408
	cFCR	1.305
	Livability%	97.4
	Daily Gain	72.4
EPEF	501.2	



JANUARY-Top PERFORMANCE BY AREA

Area	Chicks Placed	Mean Age	BW	FCR	cFCR(2Kg)	Livability%	Daygain	EPEF
North EC House	15564	40.0	3100	1.464	1.220	95.3	77.5	504.5
North Open House	2520	32.2	2576	1.400	1.272	95.5	79.9	545.3
East EC House	9980	38.0	2934	1.473	1.265	96.1	77.2	503.9
East Open House	1827	37.0	2805	1.431	1.252	97.4	75.8	515.8
Central EC House	10171	32.1	2440	1.372	1.274	97.4	76.0	539.4
Central Open House	1891	34.0	2480	1.441	1.334	95.0	72.9	481.0
South EC House	19962	34.0	2463	1.408	1.305	97.4	72.4	501.2
South Open House	9969	34.0	2405	1.391	1.301	95.4	70.7	484.9

JANUARY-Top 10 FIELD PERFORMANCE

Flock	Farm Type	State	Chicks Placed	Mean Age	BW	FCR	cFCR	Livability%	Day Gain	EPEF
Flock 1	OPEN HOUSE	PUNJAB	2520	32.2	2576	1.400	1.272	95.5	79.9	545.3
Flock 2	OPEN HOUSE	PUNJAB	5478	35.6	2802	1.400	1.222	96.2	78.8	541.7
Flock 3	OPEN HOUSE	HIMACHAL PRADESH	3574	32.1	2453	1.380	1.279	97.5	76.4	540.1
Flock 4	EC HOUSE	MAHARASHTRA	10171	32.1	2440	1.372	1.274	97.4	76.0	539.4
Flock 5	OPEN HOUSE	MAHARASHTRA	5102	34.2	2661	1.430	1.283	97.5	77.8	530.7
Flock 6	OPEN HOUSE	PUNJAB	1655	34.6	2640	1.400	1.258	97.2	76.3	529.2
Flock 7	OPEN HOUSE	MAHARASHTRA	1657	34.0	2592	1.400	1.268	96.7	76.2	526.8
Flock 8	OPEN HOUSE	PUNJAB	4596	35.0	2720	1.410	1.250	95.5	77.7	526.6
Flock 9	OPEN HOUSE	MAHARASHTRA	8615	35.0	2497	1.330	1.220	97.2	71.4	521.6
Flock 10	OPENHOUSE	PUNJAB	5488	35.1	2659	1.390	1.244	95.5	75.8	521.0



From the Editor's Desk



When Prevention Fails: The Cost of Ignoring Biosecurity

India's poultry industry has made remarkable progress in genetics, nutrition, housing, and integration. Yet, despite technological advancement, one basic principle continues to determine success or failure on the farm — biosecurity. When prevention fails, the consequences are immediate, expensive, and often devastating.

Biosecurity lapses rarely occur in dramatic ways. They creep in quietly — an unchecked visitor entry, a vehicle that skips disinfection, a neglected footbath, shared equipment between sheds, or inconsistent rodent control. During disease-free months, complacency begins to replace discipline. Unfortunately, pathogens need only one opportunity.

When disease enters a farm, the visible loss starts with mortality. But the real damage runs deeper. Poor feed conversion, uneven growth, increased medication costs, labour stress, and delayed marketings compound financial strain. Even subclinical infections silently erode performance, reducing profitability without obvious warning signs. For many small and medium farmers operating on tight margins, a single outbreak can wipe out profits from multiple cycles — sometimes even forcing them out of business.

Beyond individual farms, biosecurity failures disrupt entire production clusters. Disease rumours depress market prices. Consumer confidence dips. Movement restrictions interrupt supply chains. In severe cases, culling and zoning orders magnify losses across regions. The economic ripple effect extends far beyond the farm gate.

What makes these losses particularly painful is that most are preventable. The cost of fencing, sanitation, vaccination, and staff training is minimal compared to the financial shock of an outbreak. Biosecurity is not an expense; it is risk insurance with measurable return on investment.

The poultry sector cannot afford reactive management. As farm densities increase and climate variability adds new stressors, disciplined prevention must become non-negotiable. Biosecurity should be treated with the same importance as feed procurement or chick quality.

When prevention fails, profit disappears. The future of Indian poultry depends not only on producing more — but on protecting better, every single day.

OUR TEAM

Bhavana Gupta
Editor-in-Chief
editor@pixie.co.in

Parth Rai Gupta
Co-Editor
editor.pcs@gmail.com

Prince
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MANAGEMENT TEAM



Vishal Rai Gupta
Managing Director
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Role of Heat Shock Proteins in Domestic Animals

**Aditi Choudhary¹, Sunita Beniwal¹,
Yashpal Choudhary², Pavan Kumar
Mittal³, B.S. Saini³, Sarjna Meena⁴**

¹PG Scholar, Department of Veterinary physiology & Biochemistry

²Ph.D. Scholar, Department of Veterinary physiology & Biochemistry

³Assistant Professor, Department of Veterinary physiology & Biochemistry

⁴Assistant Professor, Department of Veterinary Pathology

Post Graduate Institute of Veterinary Education and Research, Jaipur

Rajasthan University of Veterinary and Animal Sciences, Jobner, Jaipur

Email: - aditychoudhary09@gmail.com

Introduction

Heat shock proteins (HSPs) are a group of highly conserved proteins produced by cells in response to stress conditions such as heat, cold, oxidative stress, toxins, and infections. They are often called molecular chaperones because they help maintain proper protein structure and cellular homeostasis. In domestic animals, HSPs are critical for survival under environmental stress and have important roles in immunity, productivity, reproduction, and disease resistance.

HSPs are classified based on molecular weight into families such as HSP27, HSP40, HSP60, HSP70, HSP90, and HSP110. Among these, HSP70 and HSP90 are most extensively studied in livestock and poultry because of their strong protective roles against stress.

Cellular Protective and Molecular Chaperone Functions

The primary function of HSPs is to maintain protein stability and prevent damage during stress. They assist in folding newly synthesized proteins, refolding damaged proteins, and preventing aggregation of denatured proteins.

During heat stress, cells increase HSP production to protect cellular proteins and maintain cell viability. These proteins are regulated by heat shock factors (HSF), which activate HSP gene expression during stress exposure.

HSPs also protect cells by preventing apoptosis (programmed cell death). For example:

- HSP70 and HSP90 inhibit apoptosis signaling pathways.
- HSP27 prevents release of cytochrome c from mitochondria.

These actions help maintain tissue integrity and cellular survival in stressed animals.

Role in Stress Adaptation and Thermotolerance

Domestic animals frequently face environmental stress, particularly heat stress in tropical and subtropical regions. HSPs are rapidly synthesized in response to stress and help restore physiological balance.

HSP70 plays a major role in thermotolerance by:

- Providing antioxidant protection
- Stabilizing cellular metabolism
- Maintaining physiological homeostasis

Heat stress can reduce growth, reproduction, and milk production in livestock, but animals with higher HSP expression often show better tolerance to high temperature.

In poultry, HSPs help reduce heat stress damage, improve survival, and serve as biomarkers for stress detection.

Role in Immunity and Disease Resistance

HSPs play an important role in the immune response by:

- Acting as signals for immune activation
- Supporting antigen presentation

- Enhancing innate and adaptive immune responses

HSP70 can transmit stress signals to the immune system and help induce immune protection mechanisms.

Studies in cattle show that animals with stronger immune responses produce higher HSP70 levels during stress, indicating better disease resistance and thermotolerance.

Role in Growth and Productivity

Stress conditions negatively affect feed intake, nutrient utilization, and production efficiency. HSPs help maintain metabolic balance and reduce stress-related production losses.

In livestock:

- Heat stress alters amino acid utilization and milk protein synthesis
- HSPs help stabilize metabolic functions and improve performance

Thus, HSP expression is associated with improved growth, feed efficiency, and overall productivity.

Role in Reproduction

Heat stress can damage reproductive cells and reduce fertility in domestic animals. HSPs protect reproductive tissues by reducing oxidative damage and apoptosis.

For example:

- HSP32 reduces oxidative damage in bovine granulosa cells
- HSP70 protects germ cells and maintains reproductive cell integrity
These mechanisms help maintain fertility and embryo survival during stress conditions.

Role as Biomarkers in Veterinary Medicine

HSPs are increasingly used as biomarkers to evaluate animal welfare and stress levels. Their levels increase rapidly during environmental or physiological stress, making them useful indicators in:

- Transport stress monitoring
- Heat stress detection
- Disease prognosis

Understanding HSP expression patterns helps in genetic selection of heat-tolerant animals.

Applications in Livestock Breeding and Management

HSPs are important in:

- Selection of heat-tolerant breeds
- Improving climate resilience
- Disease prevention strategies

Genetic studies have identified HSP genes associated with heat tolerance in cattle, sheep, and goats.

Conclusion

Heat shock proteins are vital components of the stress response system in domestic animals. They protect cells from environmental and physiological stress by maintaining protein stability, reducing apoptosis, and enhancing immune function. HSPs also improve productivity, reproductive performance, and disease resistance. With climate change increasing stress challenges in livestock production, understanding and utilizing HSPs will play an important role in improving animal health, welfare, and production efficiency in the future.

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Disease Prevention in the Poultry Industry: A Strategic and Systematic Approach

By

Prof. Dr. ARM Ziaul Hasan, PhD

Senior Consultant – Industrial Agricultural & Livestock Production & Management Specialist

Abstract

Disease outbreaks remain one of the most significant threats to sustainable poultry production worldwide. They undermine productivity, increase mortality, inflate production costs, and erode market confidence. Effective disease prevention is not accidental — it's systematic, strategic, and rooted in science, management, and operational discipline. This article dissects the critical components of effective disease prevention in poultry operations, ranging from biosecurity and vaccination to surveillance, data analytics, farm design, and risk governance. It also highlights implementation challenges and offers clear operational guidelines.

Introduction

The poultry industry has seen explosive growth over the last five decades, driven by demand for affordable protein, technological advances, and intensified production systems. However, intensification has come with heightened disease risk. Viral agents like **Newcastle Disease Virus (NDV)**, **Highly Pathogenic Avian Influenza (HPAI)**, and bacterial pathogens such as **Salmonella spp.** and **Escherichia coli** cause worldwide economic losses exceeding billions annually (Smith et al., 2023).

Disease prevention must be strategic — not reactionary. It needs planning, investment, monitoring, and continuous evaluation. This article presents a comprehensive

framework for real-world disease prevention in poultry.

2. Understanding Disease Dynamics in Poultry

Disease dynamics in flocks are governed by:

- **Host factors:** age, genetics, immunity
- **Agent factors:** virulence, transmissibility
- **Environment:** housing, hygiene, temperature, stocking density
- **Management practices:** feed, water quality, human traffic
- **Vectors & fomites:** wild birds, rodents, equipment, vehicles

Disease risk is essentially a function of **exposure × susceptibility**. Reduce either, and you lower risk.



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3. Core Principles of Disease Prevention

3.1 Biosecurity: The First Line of Defense

Biosecurity is the deliberate set of measures to prevent the introduction and spread of infectious agents.

3.1.1 External Biosecurity

Prevents disease entry into the farm.

- **Controlled access:** perimeter fencing; designated entry points
- **Visitor protocols:** mandatory logging, restricted access, protective clothing
- **Vehicle management:** wash bays, wheel dips, disinfection mats
- **Supply chain controls:** vetting of feed, day-old chicks, equipment suppliers
- **Wildlife exclusion:** netting, rodent traps, vermin proofing

Without gate level bio security, every disease will find a way.

3.1.2 Internal Bio security

Prevents disease spread within the farm.

- **Zoning:** clean/dirty separation (breeding, rearing, processing)
- **Personnel traffic patterns:** one-way flow; showers in/out
- **Equipment hygiene:** dedicated utensils for each barn
- **Manure management:** rapid removal and proper storage

3.2 Vaccination Programs

Vaccination must be **scientifically designed, logistics-optimized, monitored, and updated.**

3.2.1 Principles

- Target prevalent pathogens (regional disease profiles matter)
- Match vaccine type (live attenuated vs. inactivated vs. vectored) to risk
- Schedule based on maternal antibody levels and production cycle

3.2.2 Common Vaccines

- NDV (Newcastle Disease)
- IBD (Infectious Bursal Disease)
- IB (Infectious Bronchitis)
- Marek's Disease
- Avian Influenza (when licensed and indicated)

3.2.3 Delivery Methods

- **Spray/Aerosol:** uniform distribution
- **Drinking water:** efficient but demands strict sanitation
- **Injection:** precise but labor-intensive

Monitoring immune response through serology is vital. Blind vaccination without validation is wasted effort.

4. Environmental and Housing Management

Disease prevention is not just about microbes — it's about the **environment that microbes thrive in.**

4.1 Ventilation

Proper airflow reduces ammonia buildup, humidity, and respiratory stress — all of which reduce disease susceptibility.

4.2 Litter Management

- Dry, friable litter inhibits pathogen survival.
- Wet litter promotes **E. coli**, **Salmonella**, and coccidial outbreaks.

4.3 Temperature & Humidity

Comfortable environmental conditions reduce stress and immunosuppression. Track with sensors and automate systems where possible.

4.4 Stocking Density

Overcrowding increases contact rates and disease spread. Recommended densities vary by breed and production system.

5. Nutrition and Water Quality

Healthy birds are disease-resilient birds.

- **Balanced diets:** tailored to age and purpose (meat vs. layers)
- **Trace minerals & vitamins:** bolster immune responses
- **Probiotics & prebiotics:** support gut health
- **Clean water:** tested regularly for contaminants and microbial load

Inadequate nutrition undermines vaccination efficacy and increases susceptibility to opportunistic pathogens.



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6. Diagnostics and Surveillance — Data-Driven Prevention

Waiting for a full outbreak before action is a management failure.

6.1 Active Surveillance

- Regular flock health checks
- Environmental swabs
- Serological profiling
- Rapid antigen/PCR testing for high-risk pathogens

6.2 Passive Surveillance

- Worker reporting systems
- Mortality trend tracking
- Production parameter deviations (weight gain, feed conversion)

Modern poultry operations integrate **dashboard systems** that use KPIs to predict disease risk before clinical signs emerge.

7. Risk Assessment and Response Planning

Prevention is planning. A formal **risk assessment matrix** identifies:

- Likelihood of pathogen entry
- Potential impacts on health and economics
- Controls in place and gaps

Based on risk scoring, create **contingency plans**:

- Tiered response levels (alert → partial lockdown → emergency)
- Communication protocols
- Quarantine and depopulation guidelines
- Carcass disposal and disinfection procedures
- Stakeholder engagement (vets, labs, authorities)

<>

8. Workforce Training and Culture Change

People are the weakest link in disease prevention — unless trained and disciplined.

- Standard Operating Procedures (SOPs)

- Regular training on hygiene and disease recognition
- Incentives for compliance
- Accountability systems

Culture beats protocol when no supervisor is watching.

9. Antibiotic Stewardship

Globally, antibiotic resistance is a top threat. Poultry producers must adopt:

- **Judicious antibiotic use:** only when necessary and under veterinary supervision
- **Record keeping:** indications, dosages, outcomes
- **Alternatives:** probiotic/prebiotic strategies, improved management

Antibiotics are not a substitute for prevention; they're a last line of clinical support.

10. Case Study: HPAI Control and Lessons Learned

Highly Pathogenic Avian Influenza (HPAI) epizootics demonstrate how



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fast disease can devastate flocks.

Key takeaways:

- Wild bird surveillance helps early warning
- Multilayered biosecurity (not single layer) is essential
- Rapid diagnostics and depopulation limits spread
- Transparent reporting supports regional control

HPAI isn't eradicated — it's managed. Control depends on **coordination across farms, regions, and governments.**

11. Metrics for Evaluating Prevention Efficacy

Prevention must be measurable:

Metric Category Examples Health Indicators Mortality rate, clinical signs frequency Production Performance FCR (Feed Conversion Ratio), egg production Biosecurity Compliance SOP audit scores Vaccination Efficacy Seroconversion percentages Economic KPIs Cost of prevention vs. losses prevented

Continuous improvement is not optional; it's a performance driver.

12. Challenges in Implementation

Even the best strategies fail without:

- Leadership commitment
- Adequate investment
- Skilled workforce
- Reliable diagnostics
- Data infrastructure

Underinvestment in any of these nullifies prevention efforts.

13. Strategic Roadmap for Poultry Operations

A concise 6-step action plan:

- **Baseline Assessment:** Identify risks and current gaps
- **Biosecurity Upgrade:** Zone definition, access control
- **Vaccination Protocol Design:** Based on disease profile
- **Monitoring Systems:** KPIs, dashboards, lab support
- **Training & Culture:** SOPs, accountability

- **Continuous Review:** Monthly metrics + annual audit

14. Conclusion

Disease prevention in poultry isn't luck or luck-based hygiene. It's a **systematic discipline** combining science, management, surveillance, and human behavior. The cost of prevention is always lower than the cost of repeated outbreaks, production losses, and market disruption. The industry must adopt a **strategic lens**, measure outcomes, and continuously optimize.



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Disease Prevention: The New Backbone of Profitable Poultry

Siddhi Gupta

Co-Editor

India's poultry industry has evolved from a backyard activity into a highly organized, technology-driven agribusiness sector. With annual growth rates of 6–8%, egg production exceeding 140 billion annually and broiler placements crossing 5.5 billion birds, the industry today plays a crucial role in food security, employment and rural development.

However, growth has brought complexity. Higher stocking densities, faster production cycles, increased movement of feed and personnel, and climate variability have intensified disease risks. In this modern production environment, disease prevention is no longer a technical recommendation — it is the backbone of profitability.

The New Disease Reality

Poultry diseases are no longer confined to seasonal patterns. Historically, outbreaks of Newcastle disease, infectious bronchitis or avian influenza followed predictable cycles. Today, many regions report year-round disease pressure.

Climate fluctuations weaken immunity. High-density farming accelerates pathogen transmission. Global trade and migration increase exposure risks. Pathogens evolve rapidly. Together, these factors create a continuous risk landscape.

Farmers now face both clinical and subclinical challenges. While mortality grabs attention, subclinical infections often cause more hidden damage by reducing

feed conversion efficiency, slowing growth and compromising egg production without dramatic signs.

A broiler farm operating at narrow margins cannot afford even small inefficiencies. A 3–4 point deterioration in FCR due to mild enteritis can significantly increase feed cost per kilogram of live weight. Similarly, a 4% drop in egg production in a large layer operation translates into thousands of eggs lost daily.

Prevention protects these margins.

The Economics of Prevention

Disease treatment is reactive and expensive. Prevention is proactive and cost-efficient.

Consider the components of disease-related losses:

- Increased mortality
- Reduced weight gain
- Poor uniformity
- Higher medication costs
- Veterinary consultation expenses
- Market delays
- Reputation damage

Preventive investments, on the other hand, include:

- Structured biosecurity systems
- Proper vaccination protocols
- Clean water systems
- Rodent control
- Litter management
- Environmental control equipment

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- Regular health monitoring

The cost of implementing a comprehensive biosecurity system is minimal compared to the losses from a single outbreak. Prevention stabilizes performance parameters and ensures predictability — a critical factor in modern integrator contracts and market planning.

Biosecurity: The First Line of Defense

Biosecurity must shift from a periodic inspection requirement to a daily operational culture.

Key pillars include:

Controlled Entry

Visitor restrictions, logbooks and mandatory protective clothing reduce external contamination risks.

Vehicle Sanitation

Transport vehicles often act as mechanical carriers of pathogens. Proper disinfection at entry points is essential.

Water Hygiene

Water lines can harbor biofilms that support bacterial growth. Routine sanitation and testing prevent contamination.

Litter Quality

Wet litter encourages coccidiosis and bacterial proliferation. Proper ventilation and litter turning are preventive strategies.

Rodent and Wild Bird Control

Rodents and wild birds are frequent carriers of pathogens. Structural barriers and baiting systems are non-negotiable.

Biosecurity failures are often simple lapses — and preventable ones.

Vaccination: Strategy Over Routine

Vaccination remains one of the most effective disease prevention tools, but its success depends on execution.

Effective vaccination requires:

- Region-specific disease assessment
- Correct vaccine storage and handling
- Proper administration technique
- Monitoring antibody response

Blindly following generic vaccination charts without understanding local disease pressure can result in inadequate protection. Collaboration between farmers and veterinarians is essential to tailor programs to specific farm conditions.

Vaccination should be seen as part of an integrated prevention strategy, not a standalone solution.

Gut Health: The Foundation of Immunity

Modern poultry health management increasingly focuses on gut integrity.

Subclinical gut disorders reduce nutrient absorption and weaken immunity. Feed additives such as probiotics, prebiotics, enzymes, organic acids and phytogenic compounds play preventive roles by supporting intestinal health.

Healthy gut function leads to:

- Improved FCR
- Better weight gain
- Higher egg output
- Reduced pathogen colonization

In markets moving toward antibiotic reduction, gut health management becomes even more important.

Climate Stress and Disease Susceptibility

Environmental stress suppresses immunity.

High temperatures reduce feed intake and compromise gut health. Poor ventilation increases ammonia, irritating respiratory

tracts and predisposing birds to infections.

Modern farms increasingly invest in:

- Automated ventilation systems
- Cooling pads and foggers
- Real-time temperature and humidity monitoring

Environmental management is preventive medicine.

Technology as a Preventive Tool

Data-driven monitoring systems now allow early detection of disease signals. Sudden drops in feed or water intake often precede visible symptoms.

Digital tools enable:

- Real-time mortality tracking
- Automated feed conversion analysis
- Environmental alerts
- Remote monitoring

Technology transforms prevention from reactive to predictive.

Prevention as a Profit Strategy

Profitable poultry farming is not about producing more birds; it is about protecting each bird produced.

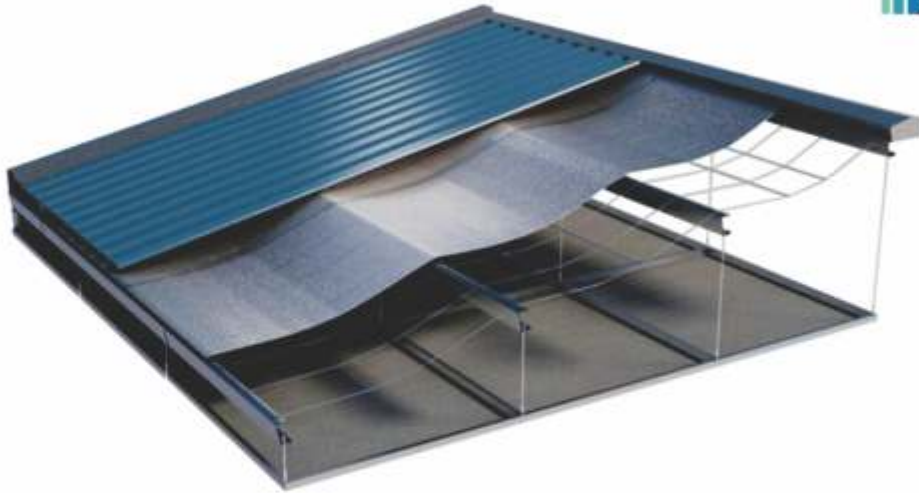
Stable mortality, consistent FCR, predictable egg production and reduced medication costs directly improve margins. Prevention provides stability, and stability ensures sustainable growth.

In a competitive industry with fluctuating feed costs and market prices, disease prevention becomes the most controllable factor influencing profitability.

The message for modern poultry producers is clear:

Prevent today. Protect performance. Secure tomorrow's profit.

Disease prevention is no longer a veterinary expense — it is the backbone of profitable poultry.



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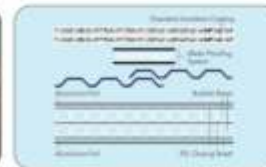
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Disease Prevention and Health Management in Poultry Farming



Simran jeet Singh¹, and Burhan Nabi²

^{1,2}Department of Veterinary Medicine

^{1,2}Khalsa College of Veterinary and Animal Sciences, Amritsar

Introduction

Poultry farming is an essential agricultural activity worldwide, supplying meat and eggs to billions of people. However, poultry are susceptible to numerous infectious and non-infectious diseases that can reduce productivity, cause economic losses, and threaten food security. Disease prevention—not just treatment—is central to sustainable poultry production.

Understanding Poultry Diseases

Poultry diseases are caused by viruses, bacteria, parasites, fungi, and nutritional deficiencies. Common viral diseases include Newcastle disease, avian influenza, and infectious bronchitis. Bacterial diseases such as salmonellosis and colibacillosis affect productivity and food safety. Parasitic diseases like coccidiosis and external parasites weaken birds and increase susceptibility to infections.

Economic and Welfare Impacts

Disease has far-reaching consequences:

- **Reduced Productivity:** Illness often results in lower egg production, slower weight gain, and poorer feed conversion.
- **Increased Mortality:** High morbidity and mortality can decimate flocks rapidly if not controlled.
- **Cost of Treatment:** Medications, veterinary services, and labour add significant costs.
- **Food Safety Risks:** Diseases like salmonellosis can contaminate poultry products, affecting public health and marketability.

- **Animal Welfare:** Sick birds suffer pain and stress, making prevention a moral as well as economic imperative.

Principles of Disease Prevention

1. Biosecurity

Biosecurity refers to practices that prevent the introduction and spread of disease within and between farms.

Key Biosecurity Measures:

- **Controlled Access to Poultry Houses**
Restrict entry to essential workers only. Use dedicated footwear, clothing, and handwashing stations.
- **Visitor Management**
Keep a log of visitors, restrict access, and require disinfection for anyone entering bird areas.
- **Physical Barriers**
Install fences around the farm to deter wild birds and animals that may carry pathogens.
- **Sanitation**
Regular cleaning and disinfection of equipment, feeders, waterers, and living spaces reduce environmental contamination.
- **Isolation and Quarantine**
New birds should be quarantined for 2–4 weeks before introduction to existing flocks to observe for signs of disease.
- **Pest Control**
Rodents and insects carry disease pathogens; effective control measures (traps, screens, removing standing water) are essential.



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2. Vaccination Programs

Vaccination is one of the most powerful tools in preventing viral and some bacterial diseases.

- **Customized Vaccination Schedules**

Schedules depend on region, disease prevalence, bird age, and production type (broilers versus layers).

- **Proper Administration**

Vaccines must be stored correctly and administered by trained personnel to ensure effectiveness.

- **Record Keeping**

Maintain detailed vaccination logs including dates, vaccines used, batch numbers, and any adverse reactions.

3. Nutrition and Water Quality

Proper nutrition strengthens the immune system and improves resilience against disease.

- **Balanced Diets**

Feed must contain appropriate levels of protein, energy, vitamins, and minerals specific to the bird's age and purpose.

- **Clean Water**

Water should be free of contaminants and pathogens; daily cleaning of water lines and regular testing is crucial.

- **Feed Storage**

Store feed in dry, clean environments to prevent mold growth and contamination.

4. Environmental Management

The physical environment impacts bird health and stress levels.

- **Ventilation**

Good air quality prevents respiratory diseases by controlling humidity, dust, and ammonia levels.

- **Temperature Control**

Poultry are sensitive to

temperature extremes; heating and cooling systems maintain comfort.

- **Litter Management**

Damp, compacted litter fosters disease agents like coccidia; regular replacement and dry bedding reduce risks.

5. Stress Reduction

Stress weakens the immune response and makes birds more susceptible to disease.

- **Handling Practices**

Gentle, expert handling reduces injury and stress.

- **Avoid Overcrowding**

Too many birds in tight spaces increases aggression, stress, and disease spread.

Monitoring and Early Detection

Early detection allows for rapid intervention before diseases spread widely.

Routine Health Checks

Regular observation for signs like:

- Reduced feed intake
- Lethargy or depression
- Diarrhea
- Abnormal breathing
- Feather loss or skin lesions

Record Keeping

Document production metrics, mortality rates, and health observations to detect trends and anomalies.

Diagnostic Testing

Work with veterinarians to perform laboratory tests when disease is suspected. Early identification of pathogens enables targeted control measures.

Response to Disease Outbreaks

Even with prevention, outbreaks can occur. A swift, coordinated response is critical.

Immediate Actions:

- **Isolation of Affected Birds**

Separate symptomatic birds to limit spread.

- **Enhanced Biosecurity**

Increase cleaning frequency, restrict movement in and out of the farm.

- **Veterinary Consultation**

Engage professionals to diagnose and recommend treatment protocols.

Treatment Protocols:

While prevention reduces disease incidence, some conditions require treatment:

- **Antibiotics and Antimicrobials**

Used only when indicated by a veterinarian to avoid resistance issues.

- **Supportive Care**

Adequate hydration, electrolytes, and nutrition help recovery.

Antimicrobial Resistance (AMR) and Responsible Drug Use

Overuse of antibiotics has led to antimicrobial resistance—pathogens that no longer respond to common medications.

Responsible Practices:

- **Use Antibiotics Only When Prescribed**

Avoid routine use for growth promotion or prevention without veterinary guidance.

- **Follow Withdrawal Periods**

Observe recommended time between last medication dose and slaughter/egg collection to ensure food safety.

- **Explore Alternatives**

Probiotics, prebiotics, and immunomodulators may improve gut health and immunity without contributing to AMR.

Role of Record-Keeping and Data

Analysis

Good records are a cornerstone of disease prevention and management.

What to Record:

- Bird inventories (numbers, breeds, ages)
- Feed and water consumption
- Mortality and morbidity rates
- Vaccination dates and products
- Environmental parameters (temperature, humidity)
- Disease incidents and outcomes

Benefits of Data Analysis

Analyzing records helps:

- Spot unusual patterns (e.g., sudden drops in production)
- Evaluate effectiveness of prevention strategies
- Plan adjustments to nutrition, housing, or health protocols

Education and Training

Prevention is most effective when staff and farm managers understand risks and best practices.

Training Topics:

- Biosecurity protocols
- Bird handling techniques
- Early disease recognition
- Proper vaccine and medication administration
- Record maintenance

Continuous training fosters a culture of vigilance and responsibility.

Community and Regional Strategies

Diseases do not respect farm boundaries. Collective action improves overall poultry health.

Regional Surveillance

Local veterinary authorities often monitor disease trends and issue alerts during outbreaks.

Information Sharing

Farmers should communicate with neighbours and cooperatives about emerging problems to enable coordinated responses.

Government and Industry

Support

Vaccination campaigns, subsidized veterinary services, and training programs help smallholder farmers implement prevention measures.

Conclusion

Disease prevention in poultry is multifaceted, combining strong biosecurity, vaccination, proper nutrition, environmental management, vigilant monitoring, and responsible medication use. While challenges such as antimicrobial resistance and evolving pathogens persist, informed management and proactive strategies can significantly reduce disease incidence, improve bird welfare, and enhance farm profitability.

Ultimately, disease prevention is not a one-time task but an ongoing commitment requiring dedication, education, and collaboration across individual farms and broader agricultural communities.





**Ramya.K, Sankar.P, Arthanari
Eswaran. M and Karthik. K**

Veterinary College and Research
Institute, Udumalpet

Tamil Nadu Veterinary and Animal
Sciences University, Chennai

Managemental Strategies to Combat Heat Stress in Poultry

The livestock serve as an additional source of income for the farmers and during the lean season most of them depend on it as an alternate source of income. The production parameters of livestock are highly influenced by factors like nutrition, temperature, management practices etc., The poultry farmers will be encountering the tough task of managing heat stress during ensuing summer season. This article describes the reasons for heat stress and its management in poultry farming during summer.

Hot weather can have a severe impact on poultry performance. Production efficiency can be affected long before the temperature reaches a level at which survival becomes a concern. In general the ideal temperature for optimum poultry production is 18.3 -23.8°C. Heat stress begins when the ambient temperature climbs above 26.6°C and is readily apparent above 29.4°C. Birds like mammals are homoeothermic and maintain a relatively constant deep body temperature 41.7°C.

The thermoregulatory mechanism in birds is effective only upon the ambient temperature within certain limits (18-28°C). Beyond this bird cannot adjust well. The upper lethal temperature in birds is about 47° C (116.8oF), this is called thermo neutral or zone of comfort during which birds do not change their behaviour or signs of discomfort and use minimum amount of metabolic energy to maintain homoeothermic range of body temperature. Within the thermo neutral zone, body temperature is maintained by the thermal equation (heat

production=heat loss).When a bird begins to pant, physiological changes have already started within its body to dissipate excess heat. Even before the bird reaches this point, measures to help birds remain comfortable will help maintain optimum growth rates, hatchability, egg size, egg shell quality, and egg production.

How the heat stress affects the poultry?

In the heat stressed birds, they have difficulty in achieving balance between body heat production and body heat loss. When environmental temperature exceeds 35° C, bird is likely to experience heat stress.

1. In an effect to maintain body temperature birds first rely on losing heat from blood vessels near surface of skin by process called non-evaporative cooling. However, this mechanism is only effective when ambient temperature is lower than bird's body temperature.
2. If the ambient temperature increases beyond bird's thermo neutral zone, non-evaporative cooling becomes ineffective. At these higher temperatures, bird relies on **panting / evaporative cooling** as mechanism for controlling body temperature. **Panting** is an effective but **energy expensive** way for the bird to control body temperature and typically results in **lower feed intake and growth** as well as **reduced feed efficiency** between 20-30° C. Feed intakes is reduced by 1-1.5% for 1° C rise in temperature and by 5% above 32°C.

There will be increased water intake to compensate water loss but situation is complicated by the body's ability to retain water is reduced as the evaporative cooling process escalates. During high ambient temperatures, the birds increase **panting** up to 10 times from a normal rate of **25**

breathes/min to 250

breathes/min. This leads to an excessive loss of carbon dioxide resulting in raised blood plasma bicarbonate levels and increased blood pH. The bird attempts to correct blood pH by excreting bicarbonates through urine. Bicarbonates are negatively charged ions that must be coupled with positively charged ions such as potassium to be excreted in urine. However, as potassium is important to maintain intracellular water balance, a loss of potassium ions in urine reduces the ability to maintain this water balance. Consequently, while birds do compensate for water losses associated with panting by consuming more water, its retention in the body cells is limited by simultaneous loss of electrolytes such as potassium in urine.

Impact of heat stress in poultry

- Reduced disease resistance
- Outbreak of infectious diseases caused by E.coli, Mycoplasma etc
- Non infectious diseases like gout
- Fluid imbalance due to diarrhoea and bicarbonate and potassium loss

How to identify the heat stressed birds?

The symptoms of one or more of the following are a clear indication for heat stress.

- Panting/rapid respiration
- Increased intake of water
- Increase in body temperature
- Reduced appetite.
- Reduced feed efficiency

- Less body weight gain in broilers
- Reduction of egg production
- Poor egg shell quality
- Death

In post mortem, the following observations could be made

- Dehydrated carcass
- Mucoïd exudates in mouth and nostrils
- Pale/cyanotic combs
- Pale breast muscles
- Congestion of liver, spleen, kidney and lungs.
- Fluid contents in intestines.
- Rapid decomposition of carcass

How to deal with the heat stress?

Heat stress can be handled by following effective management practices in

• Housing

- a) Orientation of the poultry shed: East – West to minimize solar heating and direct access to sunlight.
- b) Poultry houses in tropics should have good roof insulation (if possible with false roof to reduce the conduction of heat) with support of foggers and cooler systems.
- c) In open sided houses, width of house will be a limiting factor so keep the optimum width (24-32 ft) based on temperature, humidity and wind velocity, type of house and nature of bird for effective cross ventilation.
- d) For birds kept in cages, the centre height of building should be a minimum of 14 feet.
- e) Increased air movement over the birds by cooler fans/exhaust to produce a wind chill effect which will cool birds even without drop in the house temperature.
- f) Use sprinklers on the top or inside shed.
- g) Shed design and construction

should not allow direct sunlight on birds.

- h) Thatching of roof with paddy straw or sugar cane leaves will reduce temperature inside the shed.
- i) The roof should be painted with white to reflect light.
- j) Shades from tall trees and plantation around the sheds can reduce the radiant heat. The plantation of trees should be such that trees will be leafy during summer and bald during winter.
- k) Roof overhangs should be sufficient (3-5 ft) to protect the birds from strong sunrays.
- l) Overcrowding of birds should be avoided
- m) 10% extra floor space should be provided in summer.
- n) The house should be situated away from other buildings in order to facilitate free movement of air.
- o) High altitude of roof is ordinarily 2.6 to 3.3 m from foundation to the roof line to provide maximum ventilation.

• Water

Water is the most important factor among all to alleviate heat stress during summer. Birds consume 3-4 times more water during summer. Even a slight shortfall of water can lead to heat stroke and mortality. Normally feed and water consumption ratio is 1:2 but when temperature shoots beyond 35°C, this ratio may increase up to 1:4 or more.

- a) Ensure supply of plenty of clean and cool water (15-21°C) during summer months.
- b) Use water sanitizers to control infections through water.
- c) Provide cool water and electrolytes on their arrival to farm before offering feed to

avoid dehydration after transportation for day old chicks.

- d) Cover water tanks with wet gunny bags to avoid direct exposure to sun.
- e) Increase number of waterers by 25%.
- f) Increase frequency of watering.
- g) In case of nipple drinkers, insulate nipple pipe with wet gunny cloth.
- h) Provide electrolyte supplements in water during hot hours.
- l) Addition of 0.25% of salt to drinking water increases water consumption.
- j) Adjust the amounts of medications and volumes of water used for water vaccination to reflect the increase water consumption of the flock during hot weather.
- k) Do not withhold drinking water from the flock when vaccine is provided through drinking water.

Feed Management

- a) Feed consumption is reduced considerably during summer

leading to reduced body weight, egg production and shell quality.

- b) Increase the frequency of feeding.
- c) Do not offer feed during day time in broilers.
- d) Certain changes in feed formulations are necessary.
- e) Increase nutrient density of feed to compensate for reduced feed intake.
- f) Energy content of feed should be reduced. Crude protein content should not be increased
- g) 20-30% extra vitamins and trace minerals should be added to feed.
- h) Available phosphorus content of feed should be increased.
- l) Addition of 0.48 percent potassium chloride to water lowered heat stress in layers.
- j) Vitamin C supplementation at the rate of 200-500 gm /ton feed is will be beneficial to maintain integrity of blood vessels.
- k) Pelleted feeding is beneficial

where low energy fiber diets are used

- l) Add soda-bicarbonate @ 0.1% for improvement of shell quality.
- m) Since hot humid climate favors growth of moulds/fungi in feed, so constant use of anti-fungal is recommended.
- n) The diet should be balanced with limiting amino-acids, methionine and lysine which will give better results.
- General
 - a) Thick and wet litter produce/ generates more heat. Therefore, during summer, the litter thickness must not be more than 6cm.
 - b) Shifting, transportation, de-beaking and vaccination should be done during night or cool hours of the day.
 - c) Birds severely heat stressed may be dipped in cold water for 2-3 minutes keeping their neck and head above water level.
 - d) Use of paint ,white lime etc., practically reduces the shed temperature up to 2°C





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Beating the Heat: Nutritional and Management Strategies to Combat Heat Stress in Poultry



Shaista Khan
Export Manager
Amorvet Pvt Ltd

Introduction

Heat stress is one of the most persistent and costly challenges faced by the poultry industry, particularly in tropical and subtropical regions like India but increasingly across the globe. As temperatures start rising, poultry birds experience physiological stress that directly impacts feed intake, growth rate, egg production, immunity and overall profitability.

Globally, climate change has intensified the frequency and severity of heat waves, making heat stress a year-round concern in many poultry-producing countries such as Brazil, the USA, Southeast

Asia, the Middle East and parts of Africa. Managing heat stress is therefore no longer a seasonal practice but a critical component of sustainable and profitable poultry production worldwide.

Effective mitigation of heat stress requires a holistic approach, combining nutritional interventions, housing management and farm-level practices. This article discusses the impact of heat stress on poultry and outlines practical, scientifically proven strategies adopted both in India and globally to beat the heat and maintain performance during summer months.

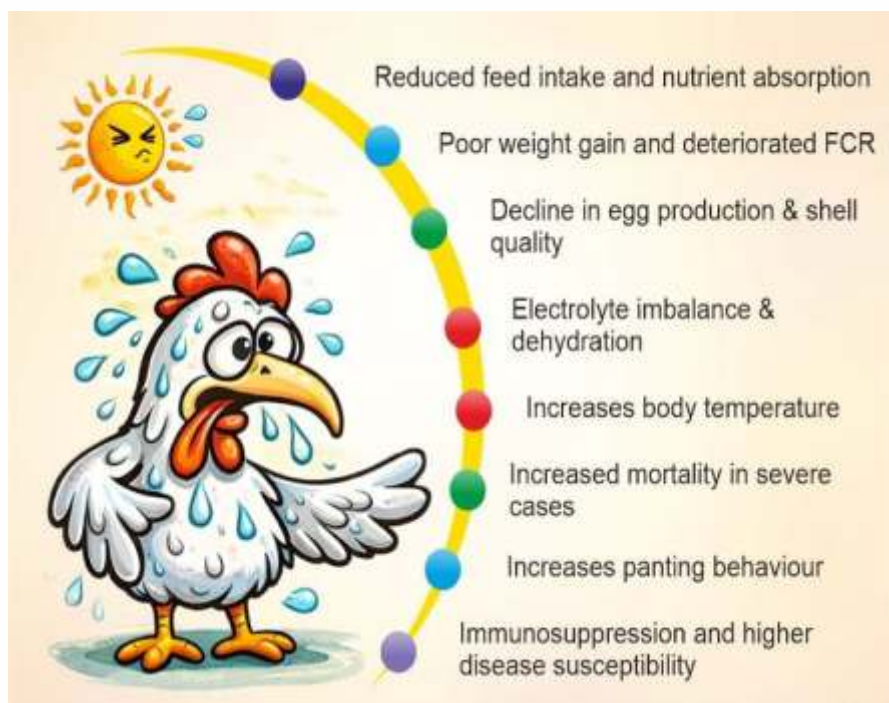


Figure: Key Effects of Summer Stress

Understanding Heat Stress in Poultry

Poultry birds are particularly sensitive to high ambient temperatures due to the absence of sweat glands. Their primary mechanisms of heat dissipation include panting, wing spreading and reduced physical activity. When environmental temperatures exceed the bird's comfort zone (18–24°C for layers and broilers), physiological imbalance occurs.

Heat stress in poultry occurs when birds can't balance body heat production with heat loss, often from high temperatures, leading to panting, reduced feed intake, decreased growth, poor egg quality, and even death. Due to the absence of sweat glands, birds rely on panting, but prolonged stress compromises their immune and gut health.

This phenomenon is consistent across Indian and international production systems. Research from the USA and Europe confirms that prolonged exposure to temperatures above 30–32°C leads to metabolic disturbances and compromised performance.

Economically, heat stress can reduce poultry farm profitability by 10–25% during peak summer. In the United States alone, annual losses due to heat stress in poultry are estimated at over USD 165 million while similar performance declines are reported in Brazil and Southeast Asia during high-temperature periods.

Nutritional Strategies to Combat Heat Stress

1. Optimizing Energy and Protein Levels

During heat stress, birds reduce feed intake, leading to lower nutrient consumption. This response is universal and observed

in both Indian and global studies. To compensate: To fulfil these requirements increase dietary energy density using high-quality fats and oils. Avoid excessive crude protein levels to reduce metabolic heat production and use balanced amino acid profiles instead of high-protein diets.

Globally, nutritionists prefer fat-based energy sources during summer as fats generate less heat increment compared to carbohydrates and proteins. This practice is widely adopted in the USA, Brazil and Europe and is increasingly followed in Indian commercial diets.

2. Electrolyte Balance

Heat stress disrupts acid-base balance due to excessive panting and loss of CO₂ leading to respiratory alkalosis. Electrolyte supplementation is a globally accepted strategy to maintain physiological stability.

Key electrolytes include:

- **Sodium (Na⁺):** Regulated fluid balance.
- **Potassium (K⁺):** Crucial for nerve and muscle system.
- **Chloride (Cl⁻):** Acid and base balance.
- **Bicarbonate (HCO₃):** Stabilizes blood pH.

Maintaining Dietary Electrolyte Balance (DEB) between 250–300 mg/kg feed has shown consistent improvements in feed intake, livability, and performance under heat stress validated by both Indian field trials and international research.

3. Role of Vitamins and Antioxidants

Heat stress significantly increases oxidative stress, resulting in cellular damage and immune suppression.

Antioxidant supplementation is therefore critical.

Globally recommended supplements include:

- **Vitamin A:** Crucial for growth, vision, and immune defence.
- **Vitamin D3:** Vital for calcium and phosphorus absorption ensure strong bones and eggshell quality.
- **Vitamin C:** reduces cortisol levels, improves stress tolerance and immunity
- **Vitamin E:** protects cell membranes from oxidative damage
- **Vitamin K:** Essential for blood clotting (coagulation).
- **Vitamin B-complex:** Vital for metabolism and nervous system health.
- **Calcium and Phosphorus:** For skeletal development and eggshell formation.
- **Zinc and Selenium:** Suppress free radicals and selenium works synergistically with Vitamin E.

Although poultry can synthesize Vitamin C, studies from India, Brazil and Southeast Asia confirm that supplementation during summer improves performance, survivability and immune response.

4. Feed Additives for Heat Stress Management

Functional feed additives play a key role in helping birds cope with heat stress under diverse production systems.

Commonly used additives worldwide include:

- **Betaine:** Acts as an osmolyte, improves cellular hydration, and reduces dehydration
- **Probiotics & Prebiotics:** Support gut health compromised during heat stress

- **Enzymes:** Improve nutrient digestibility when feed intake is reduced
- **PhytoGENICS:** Enhance appetite, digestion, and antioxidant status

A healthy gut is critical for nutrient absorption and immunity—an approach strongly emphasized in both Indian nutrition programs and global precision-feeding models.

Management Strategies for Summer Stress

1. Housing and Ventilation

Proper housing design plays a crucial role in reducing heat load. Globally proven practices now rapidly adopted in India, include:

- Adequate airflow and cross-ventilation
- Use of exhaust fans, foggers, and evaporative cooling pads
- Maintaining optimal stocking density
- Reflective roofing materials or white roof coatings

International experience shows that effective ventilation and cooling can reduce shed temperature by 4–6°C, significantly improving bird comfort and performance.

2. Water Management: The Most Critical Nutrient

Across India and globally, water is considered the most important nutrient during heat stress. Water intake may increase by 40–50% under high temperatures, while feed intake declines.

Best practices include:

- Providing cool, clean, and unlimited water

- Regular cleaning of water lines and drinkers
- Monitoring TDS, microbial load, and pH
- Using acidifiers and sanitizers judiciously

Global studies indicate that water temperature above 30°C significantly reduces intake; hence shading of tanks and underground pipelines is recommended especially under Indian summer conditions.

3. Feeding Time and Feed Form

Adjusting feeding practices is a globally accepted heat stress mitigation strategy:

- Offer feed during early morning and late evening
- Avoid feeding during peak heat hours
- Use crumble or pellet form to reduce feeding effort
- Ensure fresh feed availability

Split feeding is particularly effective in layers and is practiced in both Indian and international layer operations.

4. Litter and Farm Hygiene

High humidity, wet litter and ammonia accumulation aggravate heat stress and respiratory issues.

Key global and Indian recommendations include:

- Maintaining dry and friable litter
- Increasing ventilation to control humidity
- Prompt removal of caked litter
- Strengthening biosecurity to prevent summer disease outbreaks

- Global and Indian Perspective

Globally, poultry producers are adopting precision nutrition, automated climate control and data-driven farm management to combat heat stress. In contrast, Indian poultry production dominated by small and medium farms benefits greatly from cost-effective nutritional strategies and basic management improvements.

Indian studies indicate that targeted summer supplementation and improved management can improve FCR by 5–8% and can reduce mortality by up to 30% during peak heat. These findings align closely with global research outcomes.

Conclusion

Heat stress is an inevitable challenge in modern poultry production affecting farms in India and across the world. However, its impact can be effectively minimized through proactive nutritional planning and integrated farm management.

As summer approaches, poultry producers must shift from reactive to preventive strategies, focusing on bird comfort, gut health, water management and climate-adaptive nutrition.

Beating the heat is not about a single solution, it is about integration of nutrition, environment and management. Farms that prepare in advance will not only protect bird health but also safeguard productivity and profitability in an increasingly challenging global climate.



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Prevent Today, Profit Tomorrow: The Economics of Poultry Health

By
Mayank Arya

India's poultry industry has evolved into one of the most dynamic segments of the livestock economy. With rising demand for affordable protein, expanding integration models, and technological modernization, the sector continues to grow at a remarkable pace. Yet, behind every successful poultry enterprise lies a silent determinant of profitability: flock health.

In an industry where margins are often tight and volatility is high, disease prevention is not merely a veterinary concern — it is a financial strategy. The economics of poultry health clearly demonstrate that proactive prevention delivers higher returns

than reactive treatment. Simply put: prevent today, profit tomorrow.

The Financial Reality of Poultry Farming

Poultry farming operates on precision economics. Feed accounts for nearly 60–70% of total production cost. Even small fluctuations in feed conversion ratio (FCR), mortality, or body weight can significantly alter profitability.

Consider a 10,000-bird broiler unit:

- A 0.1 increase in FCR can raise feed cost substantially.
- A 3–5% rise in mortality reduces total saleable output.
- A 100-gram drop in average



body weight affects total revenue.

- Medication and emergency veterinary expenses further inflate costs.

When disease strikes, these factors combine to create compounding losses. Prevention, therefore, is not just about avoiding death — it is about protecting performance parameters that drive profit.

The Hidden Cost of Disease

Disease losses extend far beyond visible mortality. They include:

- 1. Reduced growth rate**
- 2. Poor feed efficiency**
- 3. Increased culling**
- 4. Higher medication costs**
- 5. Labour inefficiencies**
- 6. Market penalties and price drops**

Subclinical infections are especially dangerous. Birds may appear normal yet underperform, quietly eroding margins. Chronic challenges like coccidiosis, respiratory infections, or gut health disorders often reduce profitability without dramatic outbreaks.

In contrast, farms with consistent preventive programs show stable growth curves, uniform flocks, and predictable financial outcomes.

Prevention as a Profit Multiplier

Prevention contributes economically in three primary ways:

- 1. Improved Feed Efficiency**
Healthy birds convert feed into body mass more



efficiently. Even a minor improvement in FCR across thousands of birds results in significant savings. Since feed is the largest cost component, improving conversion directly boosts margins.

- 2. Lower Mortality and Better Uniformity**

Uniform flocks fetch better market prices and reduce processing inefficiencies. Lower mortality means higher sale volume without additional input cost.

- 3. Reduced Medication Expenditure**

A preventive health program lowers dependency on therapeutic antibiotics and emergency interventions. This not only saves money but also aligns with increasing consumer demand for responsible antibiotic use.

Core Economic Pillars of Poultry Health Management Biosecurity Investment

Strong biosecurity minimizes pathogen entry and spread. While fencing, disinfectants, protective clothing, and

sanitation protocols require upfront spending, they prevent catastrophic losses from outbreaks.

Return on investment (ROI) in biosecurity is often realized within a single avoided disease episode.

Vaccination Programs

Strategic vaccination protects flocks from major viral threats such as Newcastle Disease, Infectious Bursal Disease, and Avian Influenza (where applicable).

Vaccination costs are predictable and relatively low compared to outbreak losses. However, vaccine efficacy depends on proper storage, administration, and timing — emphasizing the importance of trained personnel.

Nutrition and Gut Health

Balanced nutrition strengthens immunity and resilience. Mycotoxin management, enzyme supplementation, probiotics, and optimized protein-energy ratios improve gut integrity and nutrient absorption.

Healthy gut function translates into:

- Better FCR
- Stronger immunity
- Lower incidence of enteric disorders

Investment in quality feed and additives often pays for itself through improved performance.

Environmental Control

Ventilation, temperature regulation, and litter management significantly influence bird health. Poor environmental control leads to stress, ammonia buildup, respiratory disease, and immune suppression.

Modern closed-house systems, though capital-intensive, offer superior environmental stability. Even in open houses, low-cost improvements in airflow and litter management can deliver measurable economic gains.

Data-Driven Decision Making

Modern poultry enterprises increasingly rely on performance data:

- Daily weight gain
- Feed intake
- Mortality trends
- Water consumption
- Environmental parameters

Early detection of deviations allows timely intervention before financial damage escalates. Digital monitoring systems reduce guesswork and enhance precision.

The economic value of early detection lies in limiting losses while maintaining production targets.

Antibiotic Stewardship and Market Economics

Global markets are shifting toward reduced antibiotic use in livestock production. Retailers and consumers are demanding transparency and safer food production systems.

Preventive health management reduces antibiotic dependency, which:

- Lowers drug costs
- Enhances brand credibility
- Opens access to premium markets
- Reduces risk of regulatory penalties

In the long term, farms practicing responsible health management may gain competitive advantages both domestically and internationally.

Risk Management in a Volatile Market

Poultry prices fluctuate due to feed costs, seasonal demand, and supply cycles. Farmers cannot control market prices, but they can control production efficiency.

Strong flock health acts as a buffer against price volatility.

When market prices fall, only the most efficient producers maintain profitability. Prevention strengthens this resilience.

In times of high prices, healthy flocks maximize output and capture full market benefit.

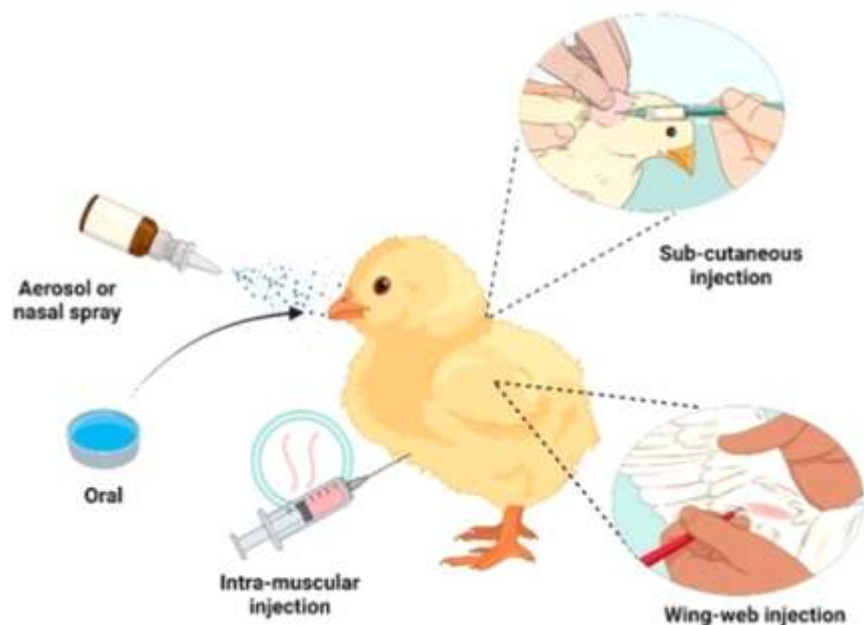
Small Farms vs. Integrated Operations

Large integrators often have structured preventive health programs, technical supervision, and standardized protocols. Independent farmers sometimes rely on reactive treatment due to limited resources or awareness.

However, prevention is scalable. Even small farms can implement:

- Controlled entry
- Footbaths
- Scheduled vaccination
- Clean water systems
- Rodent control

Low-cost preventive measures significantly reduce risk. Education and awareness are key to ensuring adoption across all scales of production.



The Compounding Effect of Consistency

The true economic power of prevention lies in consistency. One disease-free cycle saves money. Ten consecutive well-managed cycles transform business stability.

Compounded benefits include:

- Stronger cash flow
- Improved creditworthiness
- Ability to reinvest in infrastructure
- Greater confidence in expansion

In contrast, repeated disease episodes trap farmers in cycles of debt and uncertainty.

Climate Change and Health Economics

Rising temperatures, humidity shifts, and unpredictable rainfall influence disease patterns. Heat stress alone can reduce feed intake, suppress immunity, and increase mortality.

Investing in climate-adaptive housing and cooling systems protects bird performance and prevents stress-induced disease. As climate variability increases, preventive environmental management becomes an economic necessity.

Insurance and Financial Security

Some poultry farmers now explore livestock insurance products. While insurance mitigates catastrophic losses, it does not compensate for reduced growth performance or subclinical disease impacts.

Insurance complements prevention — it does not replace it.

The Psychology of Prevention

One of the biggest barriers to preventive investment is psychological. Farmers often hesitate to spend money when birds appear healthy. The absence of visible disease creates a false sense of security.

However, profitability is built during healthy periods — not during crisis management. The most successful poultry entrepreneurs treat prevention as routine operational cost, similar to feed or electricity.

Building a Culture of Health

Sustainable profitability requires:

- Continuous worker training
- Standard operating procedures (SOPs)
- Regular veterinary consultation
- Performance benchmarking
- Accountability systems

Health management must be embedded in farm culture, not activated only during outbreaks.

The National Perspective

India's poultry industry supports food security and rural employment. Widespread disease outbreaks not only harm individual farmers but also disrupt supply chains, depress consumer confidence, and affect exports.

Strengthening preventive health management at farm level contributes to national economic stability.

The Return on Prevention

When evaluating prevention economically, farmers should consider:

- Cost per bird of vaccination
- Cost of disinfectants and sanitation
- Infrastructure investment amortized over years
- Training and monitoring expenses

Then compare it with:

- Mortality losses
- Reduced weight gain
- Medication costs
- Market price penalties
- Long-term reputation damage

The comparison consistently favours prevention.

Conclusion: Health is the Best Investment

The economics of poultry farming are unforgiving. Margins are narrow, risks are high, and market volatility is constant. In such an environment, health management becomes the decisive factor separating profit from loss.

Preventive strategies — biosecurity, vaccination, nutrition management, environmental control, and data monitoring — create predictable performance and stable income. They reduce risk, enhance efficiency, and strengthen resilience.

Profit in poultry is not accidental. It is engineered through disciplined management. Every rupee invested in prevention protects multiple rupees in revenue.

As India's poultry industry advances toward modernization and global competitiveness, the message is clear:

Healthy birds are profitable birds. And prevention today secures profit tomorrow.



When Prevention Fails: The Cost of Ignoring Biosecurity

India's poultry industry has grown into a vital pillar of food security, rural employment, and agribusiness development. Yet, for all its progress in genetics, nutrition, and housing technology, one vulnerability continues to threaten its stability: weak biosecurity.

Biosecurity is often discussed, frequently recommended, and occasionally implemented — but not always sustained. And when prevention fails, the consequences are swift, severe,

and expensive. Ignoring biosecurity does not merely increase disease risk; it multiplies economic losses, disrupts markets, damages reputations, and undermines long-term sustainability.

This is the real cost of complacency.

The Illusion of Safety

Many poultry farms operate for months without major disease incidents. During these periods, protocols may gradually weaken:



- Footbaths go unrefreshed.
- Visitor logs become irregular.
- Vehicles enter without proper disinfection.
- Farm clothing protocols are ignored.
- Rodent control becomes inconsistent.

Because disease is invisible until it strikes, biosecurity fatigue sets in. The absence of outbreaks creates a false sense of safety.

But pathogens do not need frequent opportunities — they need only one.

How Biosecurity Breakdowns Occur

Biosecurity failures are rarely dramatic. They happen through small, routine lapses:

1. A feed truck entering multiple farms without adequate cleaning.
2. Workers visiting neighbouring farms.
3. Equipment shared between sheds without disinfection.
4. Poorly managed litter disposal.
5. Wild bird access due to damaged netting.
6. Introduction of new birds without quarantine.

Each lapse increases exposure risk. When multiple weaknesses overlap, the system collapses.

The Immediate Financial Shock

When disease enters a poultry farm, the first visible impact is mortality. However, the financial damage runs deeper:

1. Mortality Losses

A 10–20% mortality rate in a

10,000-bird flock represents thousands of birds lost — along with feed, labour, electricity, and housing investment already spent on them.

2. Poor Feed Conversion Ratio (FCR)

Sick birds eat less efficiently. Even surviving birds show reduced growth, increasing feed cost per kilogram of meat or eggs.

3. Veterinary and Medication Costs

Emergency treatment often involves antibiotics, supportive therapy, vaccines, laboratory diagnostics, and increased supervision — all unplanned expenses.

4. Market Penalties

Disease rumours alone can

depress local poultry prices. In severe outbreaks, movement restrictions or culling orders can halt sales entirely.

The cumulative impact often wipes out profit from multiple production cycles.

Subclinical Damage: The Silent Profit Killer

Not all biosecurity failures lead to dramatic outbreaks. Sometimes the damage is subtle:

- Slight reduction in daily weight gain.
- Minor but consistent mortality increase.
- Uneven flock uniformity.
- Higher feed consumption per unit gain.
- Drop in egg production percentage.



Such subclinical infections gradually erode margins without triggering immediate alarm. By the time performance data reveals the issue, financial loss has already accumulated.

This silent damage is often more dangerous than sudden outbreaks because it goes unnoticed for longer.

The Cost to Reputation and Market Confidence

In today's connected market environment, disease outbreaks spread rapidly through news and social media. A single confirmed case of Avian Influenza in a region can:

- Trigger panic among consumers.
- Reduce poultry consumption temporarily.
- Depress wholesale prices.
- Disrupt export negotiations.

Even farms not directly affected may suffer economic consequences due to reduced demand.

For integrated companies and branded producers, reputation damage can take years to rebuild.

Supply Chain Disruption

Biosecurity failure does not remain confined to one farm. Poultry production operates as an interconnected chain:

- Hatcheries
- Feed mills
- Grow-out farms
- Transporters
- Processing plants
- Retail markets

If one node becomes infected,

the entire chain faces disruption. Chick placements may be delayed. Processing capacity may remain idle. Contract farmers may face payment delays.

The broader economic ripple effect can be significant, especially in clustered production zones.

Antibiotic Overdependence and Resistance

When prevention fails, treatment becomes reactive and often aggressive. Increased antibiotic use may temporarily control bacterial complications, but it introduces long-term risks:

- Higher drug costs.
- Residue concerns.
- Development of antimicrobial resistance.
- Regulatory scrutiny.
- Reduced export eligibility.

Frequent outbreaks push farms into a cycle of dependency on medication rather than strengthening preventive systems.

Psychological and Operational Stress

Disease outbreaks create immense psychological pressure on farm owners and workers:

- Continuous monitoring and night supervision.
- Emotional distress due to bird losses.
- Financial anxiety.
- Uncertainty about recovery.

Operational efficiency declines during crisis periods. Staff fatigue increases the likelihood of further errors, worsening the situation.

The hidden cost of stress and

instability is rarely calculated, yet it affects long-term performance.

Impact on Small and Medium Farmers

Large integrators may absorb occasional losses due to diversified operations. Small and medium farmers, however, often operate on tight margins and limited reserves.

For them, a severe outbreak can mean:

- Loan default.
- Sale of assets.
- Exit from poultry farming.

In regions where poultry farming supports rural livelihoods, biosecurity failures can have socio-economic consequences beyond the farm gate.

Government Intervention and Restrictions

In cases of notifiable diseases, authorities may impose:

- Movement restrictions.
- Zoning controls.
- Compulsory culling.
- Temporary market closures.

While necessary for containment, these measures amplify economic loss for farmers in affected zones.

Strong on-farm biosecurity reduces the likelihood of triggering such drastic interventions.

Why Prevention Programs Collapse

Understanding why prevention fails is critical:

1. **Cost Perception** – Farmers view biosecurity spending as an avoidable expense.

2. **Complacency** – Long disease-free periods reduce vigilance.
3. **Lack of Training** – Workers may not understand disease transmission routes.
4. **Inconsistent Monitoring** – Protocols exist on paper but are not enforced.
5. **Infrastructure Gaps** – Poor farm design allows uncontrolled access.

Biosecurity is not a one-time installation. It is a continuous management discipline.

Rebuilding After Failure

Recovery from a major outbreak requires:

- Complete depopulation (in severe cases).
- Thorough cleaning and disinfection.
- Structural repairs.
- Extended downtime.
- Veterinary reassessment of vaccination programs.
- Staff retraining.

The financial and time cost of rebuilding often exceeds what preventive measures would have required initially.

Moreover, regaining buyer confidence and stabilizing performance takes multiple production cycles.

Lessons from Repeated Outbreak Zones

Regions experiencing frequent disease episodes often share common characteristics:

- High farm density.
- Shared labour and equipment.
- Poor litter disposal practices.

- Weak perimeter control.
- Inadequate zoning enforcement.

Cluster-based biosecurity planning, rather than isolated farm-level action, becomes essential in such areas.

Climate and Emerging Risks

Changing weather patterns increase pathogen survival and stress on birds. Flooding can spread contaminants across farms. Heat stress reduces immunity, making flocks more susceptible to infection.

Ignoring biosecurity under these evolving risks magnifies vulnerability.

The True Economic Comparison

Let us compare two scenarios over three years:

Farm A: Minimal Biosecurity

- Lower annual preventive cost.
- Two moderate disease outbreaks.
- Fluctuating FCR and mortality.
- High medication expenses.
- Market penalties.

Farm B: Strong Biosecurity

- Consistent preventive investment.
- Stable performance.
- Predictable margins.
- Low medication use.
- Better market reputation.

Over time, Farm B not only earns higher cumulative profit but also achieves business stability and expansion capacity.

Prevention is not a cost — it is risk insurance with measurable return.

A Cultural Transformation is Required

The poultry industry must shift from outbreak response mentality to risk prevention culture.

Biosecurity should be:

- Measurable.
- Auditable.
- Monitored daily.
- Linked to staff accountability.

Routine compliance must become non-negotiable, regardless of market conditions.

Conclusion: The Price of Neglect

Ignoring biosecurity may appear economical in the short term. But when prevention fails, the cost is multifaceted:

- Financial loss.
- Market disruption.
- Reputational damage.
- Psychological stress.
- Long-term instability.

In contrast, disciplined biosecurity safeguards performance, profitability, and sustainability.

The lesson is clear: disease does not announce its arrival. It exploits weakness.

In a competitive and rapidly evolving poultry landscape, survival belongs not to the biggest producers — but to the most disciplined.

Because when prevention fails, profit disappears. And rebuilding trust, stability, and financial strength takes far longer than maintaining biosecurity ever would.

Bhuvana Nutribio Sciences India & Andres Pentaluba S.A. (APSA) Spain, Successfully Hosts 4th Technical Seminar under Bhuvana – Pentaluba Tech Series in Guwahati, Assam.



Bhuvana Nutribio Sciences India & Andres Pentaluba S.A. (APSA) Spain successfully organised its 4th Technical Seminar under the Bhuvana – Pentaluba Tech Series on 28th January 2026 at Rohika International Guest House (AAU-IGH), Guwahati, Assam, in collaboration with PDRC, Director of Research, AVFU. The event marked an important milestone in Bhuvana's and Pentaluba's ongoing efforts to promote science-led, practical solutions for the poultry industry.

The seminar was anchored by **Dr. Nikhil Adagale**, GM, Bhuvana NBS, and formally began with a welcome



address by **Dr. Manoj Kumar Dev Sarma**, Director Bhuvana, who emphasised the company's commitment to advancing poultry health through innovation and technical excellence. He also highlighted the importance of the Northeast in poultry production and encouraged the Vikasit Bharat mantra and self-sufficiency in this sector very soon. **Dr. Prabodh Borah**, Directorate of Research AVFU, addressed the gathering and highlighted the university's involvement in poultry development in this region and the scope of this sector for economic development. **Dr. Hiranya Kumar**



Bhattacharya, Director of the Extension Education, AVFU, also attended the session.

The keynote session was delivered by **Dr. Abhijit Mishra**. His presentation on “**Integrated Approach to Gut and Respiratory Health in Poultry**” offered valuable scientific insights and practical strategies to improve flock performance and overall farm profitability. The presentation was very informative on ground realities and widely appreciated by participants.

Following the keynote address, **Dr. Jyoti Kumar Mainali**, Area Manager-Asia of Andres Pentaluba



S.A. (APSA), presented an overview of the company's corporate profile and highlighted its European-origin Tiamulin 10% (**APSAMIX TIAMULIN 10%**), along with other research-driven products like **APSAVIT OVOSMART, APSA MIOCHEM, APSA AMINOVIT** developed through strong R&D capabilities.

Further, **Dr. Santosh Ire**, Director, Bhuvana NBS, shared insights into Bhuvana's journey, outlining the organization's core strengths in gut health management and showcasing innovative tablet-based solutions designed to address key poultry health challenges. (**GutPROP**). He also emphasised the new antiviral solution for coated viruses like IB, ND, AI (**ViroStat AML**) along with the technically leading Halquionol brand. (**BhuQuinol 60% & 12%**).

Bhuvana's partner principles companies' summer solutions are unique and were shared with the audience. (**Patented Chromiate C & Rosh C+**).

The seminar witnessed participation from key poultry stakeholders and protein producers from the Northeastern region. The interactive session was well received, with attendees appreciating the depth of technical knowledge, practical relevance, and industry-focused discussions. Key protein producers who attended include Dr. Pankaj Deka, Dr. Mihir Sarma, Mr. Atul Ghose, Mr. Saju Ahmed, Mr. Dimbeswar Thakuria, Mr. Dinesh Deshmukh, Mr. Sushank Bora, Mr. Prasanta Dey, Mr. Dr. Manash Das, Dr. Lakhi Saikia, Dr. Sahjaman Ali, Dr. Sanjib Khargharia, Dr. Manoj Kumar Bora, Dr. Ranjan Neog, Mr. R. K. Jha, and others.

The event served as a strong branding and engagement platform for Bhuvana Nutribio Sciences, India, and Andres Pinaluba S.A., Spain, while also opening up new business opportunities across Assam and neighbouring states. Bhuvana and Pinaluba expressed sincere gratitude to all participating protein producers for their active involvement and encouragement toward its mission of delivering science-backed poultry solutions. Bhuvana Nutribio Sciences acknowledges the efforts put in by Dr. Pankaj Deka and Dr. Mihir Sarma in making this event successful.

The interactive session concluded with a Vote of Thanks by **Mr. Khanindra Nath Sarma**, Business Manager, Bhuvana NBS North East, Bhutan & Myanmar.







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Dr. Eckel commissions new bagging line

New line increases capacity and improves efficiency



Niederzissen, 8 March 2026 – Dr. Eckel Animal Nutrition, German family-owned producer of innovative feed additives, has commissioned its new bagging line at the company's headquarters in Niederzissen. With the new installation, the company is expanding its production capacity, responding to steadily growing demand and strengthening long-term delivery reliability.

Contact

Andrea Dietrich

PR & Communication Manager
press@dr-eckel.de | 02636 – 974948



Dr. Eckel has put a new filling and packaging line into operation at its Niederzissen (Germany) site. In addition to the installation itself, the investment also includes the associated IT infrastructure. Together, these measures increase capacity, improve internal processes and ensure reliable supply for customers in both national and international markets. At the same time, the company underlines its commitment to developing a modern, future-oriented production site and to setting new standards in excellence and quality.

The smooth transition to the new line was made possible above all by the strong commitment of the production staff and the entire project team. Project manager Ingrid Bauschinger draws a consistently positive conclusion: "In recent weeks, we were finally able to see with our own eyes what we had prepared over more than two years. This was made possible by everyone involved, from product development to quality management."

For Head of Operations Waldemar Berg, dismantling the old line marked the most challenging phase of the project. "It is quite a moment when everything in production is shut down and complete silence sets in," he says. The new line has now been commissioned according to plan and Berg can breathe a little easier. Step by step, his team closely accompanied the installation of the new system – consisting of filling equipment, a palletiser and a hood stretcher –

gaining in-depth knowledge of the entire setup.

The actual transformation had already begun months earlier. The higher level of automation required adjustments to daily routines and workflows. "Such a change only works if everyone is involved from the very beginning," Berg explains. Many discussions and a high level of teamwork were necessary to build confidence in handling the new line and to reinforce the understanding that individual experience and expertise continue to play a key role.

"It is wonderful to see how positively the team now responds to the new installation," says Berg. After this intensive phase of learning and adaptation, the team is now looking forward to applying its knowledge in day-to-day operations and making full use of the line's precision, quality and efficiency.

Managing Director Dr Victor Eckel already considers the new line a





success: "With this investment, we are ideally positioned to meet growing demand in our customer markets. I am extremely proud of our team for implementing this important future project with such care, reliability and commitment."

[Boilerplate] Über Dr. Eckel

Dr. Eckel Animal Nutrition is all about innovative feed additives made in Germany. The value-orientated family business was founded by Dr Antje Eckel in Niederrissen / Germany in 1994, where it is still firmly established. With Dr Viktor Eckel, the next generation has now joined the management team.

The company has gained international success with Dr. Eckel ranking among the world's leading companies in the sector with a specific focus on animal welfare, developing products that make animal nutrition more resource-efficient, climate-friendly and healthy. This is how Dr. Eckel contributes to sustainable global nutrition.

Dr. Eckel Animal Nutrition represents excellence, innovation and responsibility towards people, animals and the environment. The products combine innovation and quality,

which is what sets Dr. Eckel apart. Customers value the solutions for profitable animal nutrition. These promote animal welfare and enable customers to achieve sustainable, long-term success. To this end, the multinational team of experts conducts research and works with specialists from around 20 different countries. This is but one of the reasons why Dr. Eckel was identified as a hidden champion by the Forschungszentrum Mittelstand (FZM), a research institute for the German Mittelstand at the University of Trier.

Every year, Dr. Eckel invests more than 10 per cent of its revenue in innovation projects

for customers, partners and employees. These consist of new products, consolidating digital infrastructure and sustainability projects such as replacing the current company fleet with electric vehicles, among others.

Zukunftsgerichtete Aussage

This press release may include projections based on current assumptions and forecasts made by the management of Dr. Eckel Animal Nutrition GmbH & Co. KG. Various risks—both known and unknown—uncertainties and other factors may cause the actual results, financial situation, development or performance of Dr. Eckel Animal Nutrition GmbH & Co. KG to differ significantly from the estimates provided here. Such factors include those described by Dr. Eckel Animal Nutrition GmbH & Co. KG in published reports. Dr. Eckel Animal Nutrition GmbH & Co. KG shall accept no liability whatsoever for updating such projections and adjusting them to future events or developments.



Glorious Presence Of Indian Herbs At 12th Kolkata International Poultry Fair 2026, Kolkata From 11th To 13th February, 2026

INDIAN HERBS, the pioneer and market leader and No.1 Company in Herbal Animal Health Care Products Industry since 1951, participated in 2th Edition of Kolkata International Poultry Fair 2026 held in Biswa Bangla Exhibition Centre, New Town Kolkata from 11th to 13th February, 2026.

It was a proud moment for our

team to showcase our products and connect with industry leaders, partners, and poultry professionals from across the country. The event provided an excellent platform to exchange ideas, understand emerging trends, and strengthen our relationships within the poultry fraternity.

Our stall received an encouraging response, and we truly appreciate

everyone who visited us and shared their valuable time and insights.

We remain committed to supporting the growth and advancement of the poultry industry with innovative and quality-driven solutions.

Looking forward to many more such opportunities to connect and collaborate.





Gratitude & Highlights: Huvepharma® at Kolkata International Poultry Fair 2026

The curtains have closed on the Kolkata International Poultry Fair 2026, and we are energized by the incredible momentum generated over these dynamic days. Our participation was a resounding success, defined by meaningful connections and a shared vision for the future of the industry.

We extend our deepest gratitude to the remarkable community of professionals, partners, and pioneers who visited our stall. Your presence, curiosity, and collaborative spirit were the driving force behind the vibrant atmosphere and insightful exchanges we witnessed.

To every delegate who engaged with our team: thank you. The discussions we shared went beyond the conventional—they were strategic dialogues filled with valuable perspectives and a mutual passion for innovation and excellence in poultry health and nutrition.

The team of Huvepharma wishes to express our heartfelt thanks for your partnership, which is the cornerstone of our progress. The connections made and strengthened at this year's exhibition are invaluable, and we are thrilled by the opportunities they present.

As we move forward, we carry with us the inspiration and insights gathered. We are more committed than ever to supporting your goals with advanced solutions and unwavering partnership. We look forward to building on this momentum together.

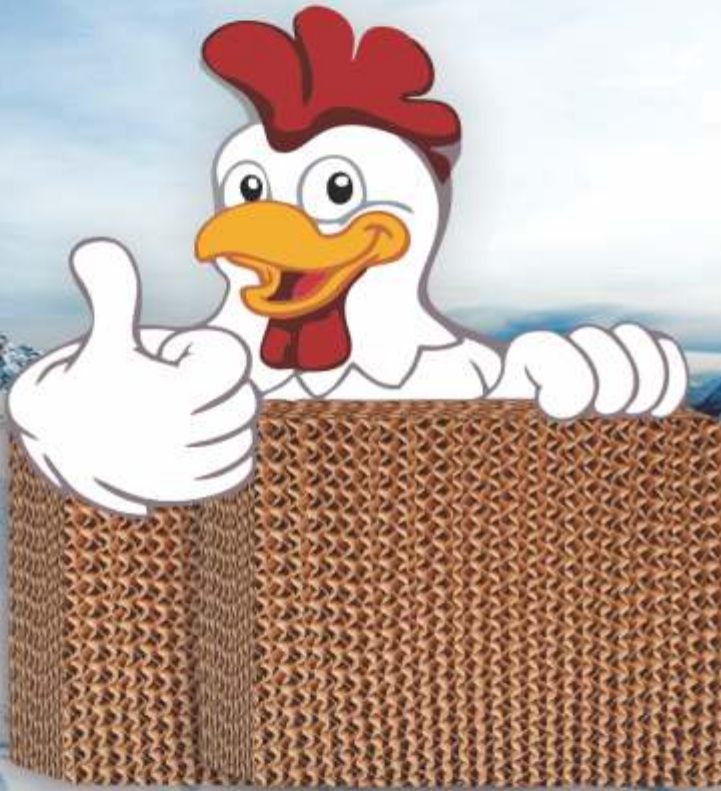




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Huvepharma SEA (Pune) Pvt. Ltd.
 42, 'Haridwar', Road 2 A/B, Kalyani Nagar, Pune 411006
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Aviagen India Hosts Technical School 2026 in Hyderabad, Reinforcing Commitment to Customer Support, Knowledge Sharing and Innovation



Hyderabad, India – February 2026:

Aviagen India successfully hosted the **Aviagen India Technical School 2026** on 9th and 10th February in Hyderabad for their customer team members bringing together global poultry experts, industry professionals and customer team members across the country.

The two-day technical forum served as a dynamic knowledge-sharing platform for improving the productivity in breeders and broilers covering health, incubation, technology advancements and management.

Talks delivered by Aviagen experts and industry professional globally representing genetics, applied physiology, nutrition, veterinary health and breeder services, including:

- **Santiago Avendano**, Global Vice President, R&D
- **Jens Lesuisse**, Global Product Director
- **Richard Bailey**, Head of Applied Physiology
- **Greg Hitt**, Regional Technical Manager – Asia
- **Scott Dawson**, Regional Technical Veterinarian
- **Michael (“Mike”) Block**, Technical Service Manager
- **Jason Cormick**, Hatchery Specialist
- **Ruben Kriseldi**, Poultry Nutrition Specialist
- **Dr. R.V. Shantanavar**, Senior Technical Service Manager – Breeders
- **Dr. Sivakumar Duraisamy**, Senior Technical Service Manager – Health
- **Dr. Jayaraman**, Poultry Consultant

The sessions reflected an integrated approach to breeder and broiler performance, emphasizing the alignment between genetic potential and management requirements.



Driving Performance Through Science and Collaboration

Aligned with Aviagen's global core values — **Customer Success, Innovation, Integrity, and Continuous Improvement** — the Technical School reflected the company's ongoing commitment to delivering science-based solutions and practical insights to support customers in achieving excellent broiler results throughout the year.

The comprehensive agenda covered critical areas including:

Broiler breeder grading and feeding to peak, point-of-lay scoring for breeders, Embryonic requirements and incubation management, Feeding right particle size for broilers, Gut health management and its scoring, Immune-suppressive challenges and flock health optimization of broiler breeders, Pipped embryo testing at hatchery, Global R&D updates and Ross® 308 AP performance insights, Data-driven diagnostic breakout analysis at the hatchery.

Interactive quiz sessions and technical discussions ensured active participation, while reinforcing applied learning and field-level implementation.

Global Expertise, Local Impact

The Technical School featured distinguished global and regional speakers from Aviagen's technical, veterinary and research teams, including senior leaders from R&D, applied physiology, product management, nutrition, hatchery management and breeder services.

Their combined expertise highlighted Aviagen's integrated approach — connecting global research advancements with practical, region-specific solutions tailored for the Indian poultry industry.

Strengthening Industry Partnerships

By creating a collaborative environment for open dialogue and experience exchange, Aviagen India reaffirmed its commitment to long-term partnerships with customers. The event underscored the company's focus on:

- Supporting breeder and broiler performance optimization
- Enhancing biosecurity and flock health programs
- Leveraging global research for local productivity gains
- Building technical capability through continuous education

The Hyderabad edition of

Technical School 2026 reflects Aviagen India's strategic priority of empowering customers with knowledge, tools and technical support necessary to sustain growth in a rapidly evolving poultry sector.

Commitment Beyond Genetics

Aviagen's philosophy extends beyond providing world-class breeding stock. Through initiatives such as Technical School 2026, the company demonstrates its dedication to:

- Responsible and sustainable poultry production
- Scientific advancement through global R&D
- Transparent and ethical business practices
- Developing people and strengthening industry capabilities

As the Indian poultry industry continues to expand, Aviagen remains steadfast in its mission to deliver balanced breeding programs that optimize bird welfare, performance efficiency and economic returns for customers.

The successful completion of Technical School 2026 marks another milestone in Aviagen India's journey of partnership-driven growth and technical excellence.



Rice & Grain Expo 2026 Concludes Successfully at Karnal, Showcasing Cutting-Edge Innovations for the Rice & Grain-Processing Industry

Karnal, Haryana, India – February 2026: Agriaxis Expomedia Pvt. Ltd., in association with co-organiser Pixie Expomedia Pvt. Ltd., successfully hosted the much-anticipated **Rice & Grain Expo 2026** from 19th to 21st February 2026 at the New Grain Market, Karnal, Haryana. The three-day mega exhibition emerged as a premier platform for the rice, grain, and food processing industry, bringing together leading companies, technology providers, and industry stakeholders from India and abroad.

The exhibition witnessed enthusiastic participation from a wide spectrum of domestic and international companies, all showcasing their latest machinery,

advanced processing solutions, and innovative technologies under one roof. The event was specifically curated to benefit rice millers, flour millers, dal millers, and food processors by exposing them to modern solutions that can enhance productivity, efficiency, and business growth.

Over the course of the event, the expo floor remained vibrant with strong footfall and active business interactions. Visitors from across the country showed keen interest in exploring new-generation equipment, automation solutions, and value-added processing technologies. Many industry professionals expressed that the expo provided them with valuable insights into emerging trends and

practical upgrades they can adopt to modernize their operations.

According to the organisers, one of the key highlights of Rice & Grain Expo 2026 was the high level of engagement between exhibitors and visitors. The exhibition successfully created a knowledge-sharing environment where technology providers could directly demonstrate how their solutions can help millers and processors improve output quality, reduce operational costs, and scale their businesses efficiently.

The visitor response remained exceptionally positive throughout the three days. Industry professionals appreciated the opportunity to interact directly with manufacturers and technology



experts, enabling them to make informed decisions for future investments. Many attendees indicated strong intent to adopt the showcased technologies in the coming months to accelerate their business growth and remain competitive in the evolving agro-processing landscape.

Exhibitors also expressed great satisfaction with the quality of visitors and the business enquiries generated during the expo. Several participating companies reported meaningful leads and productive networking opportunities.

Encouraged by the strong awareness and interest among industry stakeholders, many exhibitors have already shown keen enthusiasm to participate in the next edition of Rice & Grain Expo.

Speaking on the success of the event, the organising team from Agriaxis Expomedia Pvt. Ltd. and Pixie Expomedia Pvt. Ltd. reaffirmed their commitment to continuously strengthening the platform and bringing even more advanced technologies and global participation in future editions.

With the resounding success of the

2026 edition, Rice & Grain Expo has further reinforced its position as one of the fastest-growing industry platforms dedicated to the Rice, Grain, and Food processing sector in India.

For next year's edition dates and premium stall booking enquiries, please contact:

+91 9818610770 +91 9812082121

ricegrainexpo@gmail.com

www.riceandgrainexpo.com

Issued by:

Agriaxis Expomedia Pvt. Ltd.









EW Group to Invest ₹200 Crore in India's Poultry Sector



Strategic Expansion Through Lohmann Layers India

New Delhi, Feb 12 (PTI): Germany-based agribusiness major EW Group has announced plans to invest ₹200 crore in India's poultry sector over the next three years. The investment will be routed through its newly incorporated subsidiary, Lohmann Layers India.

EW Group, globally recognized as a leader in animal genetics, has strengthened its presence in India by transitioning from a franchise-based structure to direct market operations. The company established Lohmann Layers India through its subsidiary International Layer Distribution (ILD) after acquiring JK Breeders Pvt Ltd for an undisclosed amount.

Strengthening Long-Term Commitment to India

Antonio Paraguassu, Managing Director for Asia and Australia at ILD, emphasized the strategic importance of the Indian market.

"India is one of the world's most important and fastest-growing poultry markets. The establishment of Lohmann Layers India reinforces our long-term commitment to Indian farmers," he stated.

For over 15 years, EW Group operated in India through a franchise partnership with JK Breeders. The new structure allows the company to directly manage

operations, enabling tighter control over breeding standards, distribution networks, and technology deployment.

Surendra K Jangir, Managing Director of Lohmann Layers India, confirmed the scale of planned investment. "We plan to invest ₹200 crore in the next three years," he told PTI.

Expanding Breeding and Distribution Capacity

The investment will focus primarily on expanding breeding capacity and strengthening infrastructure across the country.

Key Expansion Targets:

- Establish breeding capacity of **400,000 layer parent birds**
- Distribute approximately **30 million day-old chicks annually**
- Set up modern incubation centres across multiple regions
- Deploy advanced breeding technology and biosecure infrastructure

Lohmann Layers India will manage commercial distribution of day-old layer chicks nationwide. By enhancing parent stock strength and hatchery capabilities, the company aims to improve productivity and genetic performance for Indian poultry farmers.

Market Share Ambitions

Currently, Lohmann Layers holds approximately 6–7% market share in India's layered chick replacement market. With the new investment, the company is targeting a substantial increase — aiming to capture 20% market share in the coming years.

This growth strategy reflects both confidence in India's expanding egg production industry and the rising demand for high-



performance layer genetics.

India is already the world's second-largest egg producer, and per capita egg consumption continues to rise steadily. The replacement chick segment remains a critical backbone of the egg production value chain, offering significant growth potential for global genetics companies.

Focus on Technology and Modern Infrastructure

The proposed incubation centres will be equipped with modern technology and high biosecurity standards. Investment areas include:

- Advanced hatchery automation
- Disease monitoring and biosecurity systems
- Improved feed conversion genetics
- Climate-controlled breeding facilities

By upgrading infrastructure and introducing improved genetic lines, EW Group aims to enhance productivity, uniformity, and disease resilience in Indian layer operations.

Strategic Significance for India's Poultry Sector

The ₹200 crore investment signals

growing international confidence in India's poultry industry. With consistent annual growth rates and increasing domestic protein consumption, India represents one of the most attractive global poultry markets.

Direct investment from a global genetics leader like EW Group is expected to:

- Strengthen breeding quality standards
- Improve farmer access to superior genetic stock
- Encourage technology adoption
- Enhance India's competitiveness in egg production

As Lohmann Layers India scales operations, the focus will likely remain on sustainable growth, farmer partnerships, and long-term capacity building.

Outlook

EW Group's transition from franchise operations to direct market participation marks a significant milestone in its India strategy. With a clear roadmap to expand breeding capacity, modernize infrastructure, and increase market share, Lohmann Layers India is positioning itself as a key player in the country's rapidly growing layer segment.

The ₹200 crore commitment not only reinforces India's importance in the global poultry landscape but also reflects the sector's strong fundamentals and long-term growth potential.

Poultry India Signals India's Expanding Role in the Global Poultry Market

A Sector Growing in Confidence and Capability

When the 17th edition of Poultry India concluded at the end of November, the message was unmistakable: India's poultry sector is not just expanding in scale — it is strengthening its global competitiveness through innovation, education and technology adoption.

According to Mr. Uday Singh Bayas, President of the India Poultry Equipment Manufacturers Association (IPEMA), the scale of participation this year reflected both industry momentum and years of strategic reinvestment.

"We had almost 510 exhibitors this year with more than 50,000 visitors from across the globe," Bayas noted. The numbers alone underline how the exhibition has evolved into one of the largest poultry platforms in Asia.

But Poultry India, Bayas emphasized, is not merely a commercial trade fair. Operated under a non-profit model through IPEMA, the event channels its surplus back into the industry — particularly into farmer education, veterinary outreach and skill development.

Reinvesting Back into the Industry

A defining strength of Poultry India is its reinvestment philosophy. The proceeds generated annually are redirected into year-round initiatives that strengthen India's poultry ecosystem.

One flagship initiative is **Knowledge Day**, which covers pressing industry topics such as:

- Emerging disease threats and prevention strategies
- Future-ready feed planning
- Manure management and sustainability frameworks
- Rural market potential

- Career pathways for future poultry professionals

However, Bayas clarified that this is only one aspect of the broader reinvestment model.

"The service what we make every year of this exhibition is again given back to the poultry industry," he explained.

Technical Outreach Across India

Unlike many trade shows that concentrate impact within event days, Poultry India's outreach extends nationwide throughout the year.

"We go to each and every state of the country and organize technical seminars with the best industry stakeholders," Bayas said.

These seminars are customized to address regional challenges. Whether the concern is heat stress in southern India, disease pressure in certain belts, or feed cost management in grain-deficit regions, the sessions are tailored accordingly.

"We first confirm what the specific problem in that state is at that particular juncture," Bayas explained. "Then we bring academia, veterinarians and industry stakeholders to enlighten farmers on those subjects."

This farmer-centric approach — meeting producers where they operate — has become a cornerstone of Poultry India's long-term strategy.



Editorial Calendar 2026

Publishing Month: January Article Deadline : 18th, Dec. 2025 Advertising Deadline : 20th, Dec. 2025 Focus : Opportunities and Challenges	Publishing Month: February Article Deadline : 18th, Jan. 2026 Advertising Deadline : 20th, Jan. 2026 Focus : Budget	Publishing Month: March Article Deadline : 18th, Feb. 2026 Advertising Deadline : 20th, Feb. 2026 Focus : Disease Prevention	Publishing Month: April Article Deadline : 18th, March 2026 Advertising Deadline : 20th, March 2026 Focus : Summer Stress Management
Publishing Month: May Article Deadline : 18th, April 2026 Advertising Deadline : 20th, April 2026 Focus : Cold Chain	Publishing Month: June Article Deadline : 18th, May 2026 Advertising Deadline : 20th, May 2026 Focus : Nutrition	Publishing Month: July Article Deadline : 18th, June 2026 Advertising Deadline : 20th, June 2026 Focus : Biosecurity	Publishing Month: August Article Deadline : 18th, July 2026 Advertising Deadline : 20th, July 2026 Focus : Sustainability
Publishing Month: September Article Deadline : 18th, August 2026 Advertising Deadline : 20th, August 2026 Focus : Egg Production & Processing	Publishing Month: October Article Deadline : 18th, September 2026 Advertising Deadline : 20th, September 2026 Focus : Processing & Packaging	Publishing Month: November Article Deadline : 18th, October 2026 Advertising Deadline : 20th, October 2026 Focus : Winter Stress	Publishing Month: December Article Deadline : 18th, November 2026 Advertising Deadline : 20th, November 2026 Focus : Food Safety

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EGG

Daily and Monthly

Prices of February 2026

Name Of Zone / Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	Average
NECC SUGGESTED EGG PRICES																													
Ahmedabad	530	530	530	530	535	540	545	545	530	530	530	530	535	540	545	545	545	545	545	525	525	525	515	515	515	515	515	515	531.07
Ajmer	465	470	470	470	485	490	490	470	450	455	455	460	480	483	483	485	485	485	475	475	465	465	465	477	483	483	468	450	472.75
Barwala	441	444	448	452	470	474	474	454	440	443	443	447	468	473	473	475	475	475	475	475	475	458	458	465	473	473	473	448	462.21
Bengaluru (CC)	575	560	560	560	560	560	560	560	560	560	560	560	570	575	580	585	590	590	590	590	590	570	570	550	550	550	550	530	565.18
Brahmapur (OD)	500	482	482	482	490	500	500	500	500	500	475	475	510	520	530	530	510	510	510	510	510	510	495	495	495	500	500	480	500.04
Chennai (CC)	580	580	580	570	570	570	570	570	570	570	570	580	590	590	590	600	600	600	600	600	600	580	580	560	540	540	540	520	573.21
Chittoor	573	573	573	563	563	563	563	563	563	563	563	573	583	583	583	593	593	593	593	593	593	573	573	553	533	533	533	513	566.21
Delhi (CC)	490	490	490	490	510	510	510	510	500	480	480	480	500	510	510	510	510	510	510	510	510	510	510	510	510	510	510	500	502.86
E.Godavari	515	467	470	475	480	480	485	485	485	485	485	485	495	505	510	515	515	515	515	515	490	490	465	475	480	480	480	490.07	
Hospet	515	500	500	500	500	500	500	500	500	500	500	500	510	515	520	525	530	530	530	530	510	510	490	490	490	490	490	470	505.18
Hyderabad	515	485	485	485	485	490	495	495	495	495	495	495	500	510	515	520	520	520	520	520	495	495	465	465	470	470	470	470	494.29
Jabalpur	505	505	505	505	505	510	510	510	510	510	495	495	505	515	515	515	515	515	515	515	500	500	490	490	490	490	490	490	504.11
Kolkata (WB)	530	530	530	530	530	545	545	545	535	535	515	515	560	570	575	575	560	550	550	550	550	550	540	550	550	555	555	530	544.82
Ludhiana	455	455	455	455	457	473	473	473	455	440	443	443	452	472	472	472	475	475	475	475	475	475	475	475	475	477	477	477	466.18
Mumbai (CC)	570	560	550	550	555	560	565	570	570	570	560	550	560	570	580	585	585	585	585	570	565	555	545	540	540	545	545	545	561.79
Mysuru	577	562	562	562	562	562	562	562	562	562	562	562	572	577	582	587	592	592	592	592	592	570	570	550	550	550	550	530	566.61
Namakkal	525	525	525	525	525	525	525	525	525	525	525	525	530	530	530	535	540	540	540	540	520	520	500	500	500	500	500	480	521.61
Pune	570	560	560	550	555	560	565	565	565	565	555	555	560	570	575	580	580	580	580	570	560	555	545	545	545	545	545	545	560.89
Raipur	492	480	475	476	475	480	475	490	490	470	465	465	490	505	510	510	510	500	485	485	485	485	465	470	480	480	485	480	484.21
Surat	545	545	545	545	545	550	555	555	555	545	545	540	540	545	550	550	555	555	555	545	535	535	525	520	520	520	525	525	541.79
Vijayawada	550	500	500	500	505	505	515	515	515	515	515	515	525	525	525	525	525	525	525	530	530	530	500	500	500	500	500	500	514.82
Vizag	515	490	490	490	490	490	490	490	490	490	490	490	490	505	510	515	515	515	515	515	500	500	480	480	485	485	485	485	495.89
W.Godavari	515	467	470	475	480	480	485	485	485	485	485	485	495	505	510	515	515	515	515	515	490	490	465	475	480	480	480	490.07	
Warangal	517	487	487	487	487	492	497	497	497	497	497	497	502	512	517	522	522	522	522	522	497	497	467	467	472	472	472	496.29	
Prevailing Prices																													
Allahabad (CC)	519	510	510	519	529	529	529	529	519	514	510	510	524	533	533	533	533	533	524	524	524	524	524	524	524	524	524	524	523.43
Bhopal	500	500	500	500	500	510	510	510	500	500	485	485	500	520	520	520	520	510	510	500	490	490	490	480	480	480	480	480	498.93
Indore (CC)	490	500	500	500	510	520	520	510	490	490	490	500	510	510	510	510	510	505	505	505	505	500	500	500	500	500	490	503.21	
Kanpur (CC)	490	490	490	500	510	510	510	500	486	486	486	486	500	510	510	510	510	510	500	500	500	500	500	500	514	514	514	514	501.79
Luknow (CC)	524	524	524	533	533	533	533	524	514	514	514	514	529	533	533	533	533	533	524	524	524	524	524	524	538	538	538	538	527.64
Muzaffarpur (CC)	500	500	505	510	525	525	525	510	490	495	490	490	510	515	515	520	520	520	515	515	505	505	500	510	520	520	515	510	510.00
Nagpur	510	500	500	500	500	510	520	520	530	515	505	505	515	515	525	530	530	530	530	520	520	520	520	490	520	520	520	510	515.36
Patna	500	500	505	510	525	525	525	510	490	495	490	490	510	515	515	520	520	520	515	515	505	505	500	510	520	520	515	510	510.00
Ranchi (CC)	548	542	528	514	528	528	528	528	528	528	523	523	571	571	548	548	538	538	528	514	514	514	514	514	528	528	528	528	531.07
Varanasi (CC)	517	500	500	510	517	523	523	517	510	500	500	500	517	523	523	523	523	523	517	517	517	517	517	517	514	530	530	517	515.43

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C/o OmAng Hotel, Namaste Chowk, Near Janta Petrol Pump, KARNAL - 132001 (Haryana) INDIA
Email : poultry.pcsl@gmail.com, dairy.pcsl@gmail.com
Website : www.pixie.co.in

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