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THE MAGAZINE OF INDIAN POULTRY INDUSTRY | JANUARY 2026

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ARTICLE

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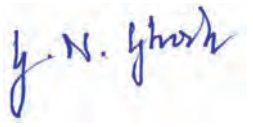
The Edit

QUALITY AS THE CORNERSTONE OF INDIAN POULTRY'S NEXT GROWTH PHASE



G. N. Ghosh
Managing Editor

India's poultry sector stands at a decisive crossroads. While scale and affordability have driven growth for decades, the next phase will be defined by quality and standardisation—imperatives not only for accessing global markets but also for winning the confidence of an increasingly aware and demanding domestic consumer.

Today's Indian customer is better informed than ever. Questions around food safety, traceability, animal welfare, antibiotic use, and nutritional integrity are no longer niche concerns. They influence purchase decisions across urban and semi-urban markets alike. Consistent quality—uniform size, hygiene, shelf life, and labelling builds trust and transforms poultry from a commodity into a credible branded food choice.

For exports, the stakes are even higher. International markets operate on strict, non-negotiable standards covering biosecurity, residue limits, processing protocols, cold chain integrity, and documentation. Standardisation across farms, hatcheries, feed mills, processing plants, and logistics is essential to meet these benchmarks reliably. Sporadic compliance is insufficient; consistency at scale is what global buyers demand.

Quality and standardisation also bring internal efficiencies. They reduce losses, improve predictability, strengthen disease control, and enable data-driven management. More importantly, they allow Indian poultry to compete on value rather than price alone—opening doors to premium segments, differentiated products, and long-term contracts.

As the industry aspires to serve both discerning domestic consumers and high-value export destinations, quality can no longer be an afterthought. It must be embedded into systems, culture, and strategy. In a market where trust is the ultimate currency, standardisation is not a constraint—it is the pathway to sustainable growth.

Article

Water Quality

Team Aviagen

This Aviagen Brief has been written specifically for producers in Asia and the Middle East where typical ambient temperatures can range from below freezing to above 50°C (122°F). This advice may be useful in other regions, but this must be discussed with the local Technical Service Manager

Introduction

Water is an essential biological ingredient of life. Not only is it a vital nutrient, but it is also involved in many essential physiological functions such as :

- Digestion and absorption, where it supports enzymatic function and nutrient transportation
- Thermoregulation
- Lubrication of joints and organs and the passage of feed through the gastrointestinal tract
- Elimination of waste
- It is also an essential component of blood and body tissues

Chickens consume about twice as much water as feed, although this ratio can be much higher during hot conditions. About 70% of a chick's weight is water (this can be as high as 85% at hatch), therefore, any reduction in water intake or increase in water loss will have a significant effect on the lifetime performance of the chicks.

Due to the essential role that water plays in the health and performance of biological systems, it is vital to ensure that an adequate, clean supply of water is provided if optimal bird performance is to be achieved.

This Aviagen Brief provides information on the factors that influence water consumption and water quality, highlighting methods to maintain and/or increase water intake, and discussing what constitutes good water quality and how to maintain it.

Water Losses

The water intake of the body should remain in balance with water loss if dehydration is to be avoided. The main sources of water loss are respiration, transpiration, and excretion of faeces and urine. Faecal water loss is about 20-30% of the total water consumed, but the most important loss of water is via the urine. The characteristics of water loss will change, depending on the environment and the humidity, for example, while evaporative heat loss may represent only 12% of the water loss in birds at 10°C (50°F), it can increase to 50% when the environmental temperature reaches 30°C (86°F). This is a critical factor with regard to the chick where water presents a larger proportion of its weight.

Key Point

Immediate water availability when chicks are placed in the house is important if permanent damage to the biological performance of the flock is to be avoided.

What Influences Water Consumption in Chicks?

Age

Water intake is closely linked to feed intake and bird age (growth response). As the bird gets older, the demand for water will increase (Figure 1). Water quality and availability, therefore, have the potential to impact heavily on the growth performance of the modern broiler, and any husbandry technique that limits water (such as part house brooding or failing to increase drinker space in the first 10 days) will have a parallel negative effect on growth.

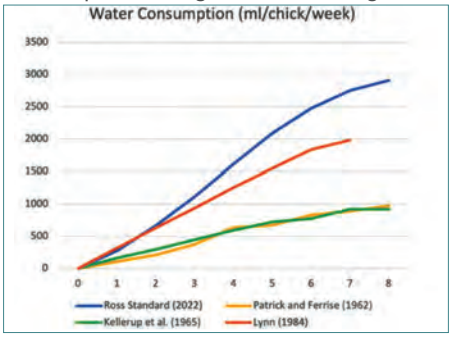


Fig.1: Water Consumption (ml/chick/week). Adapted from Bailey, 1999 and the current Ross Broiler Performance Objectives, (based on the assumption that water intake is 1.8 times that of feed intake).

Sex

The sex of the bird will also affect water intake. The water intake of males will be greater than that of females from the first week of life. Water:Feed ratio is also higher in males than in females. Adipose tissue differences between the sexes explain these differences in water intake (females being fatter than males; fat has a lower water content than protein).

Enviromental Temperature

Environmental temperature can impact heavily on water intake (Figure 2). The water intake of chickens is approximately double that of feed intake (1.8:1 at a temperature of 21°C (70°F) in bell drinkers). However, in heat-stressed birds this level will be increased. A chicken's water intake will increase by 6-7% for each degree above 21°C (70°F, NRC, 1994).

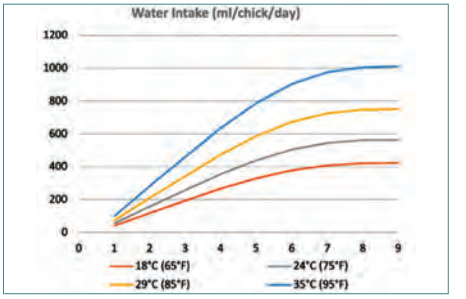


Fig. 2: Elect of Environmental Temperature on Water Intake. (Based on daily feed consumption defined in the current Ross Broiler Performance Objectives, and the assumption that water intake increases by 3.33% per°F increase in temperature [6% per °C], Singleton, 2004).

It is strongly recommended that each house has a water meter installed and that accurate daily records of water intake are maintained.

Key Points

- Increases in water intake will occur with age and environmental temperature
- Water availability must reflect these changes if performance is not to be restricted
- Each house should be fitted with a water meter

Water Temperature

With the exception of water used for vaccination, little thought is given to the temperature of the water presented routinely to birds. Stored water tends to be at a similar temperature to that of its environment. This is not significant in cold climates, but in hot climates water consumption will be reduced as the water temperature increases. Work by Beker and Teeter (1994) found the preferred water temperature of birds to be around 10^{0}C (50^{0}F), with water temperatures of 26.7^{0}C (80°F) and above leading to significant reductions in water consumption and daily weight gain. If it regularly exceeds 24^{0}C (75^{0}F), then thought should be given to developing methods of cooling water temperature in hot weather. This may involve running the drinker supply pipes through a cool pad reservoir or even across the face of the cool pad airflow.

Positioning the water tank and supply pipes underground will also help to protect the water from the ambient air temperature, keeping it cool. Pipes and tanks that are exposed to the sun should be insulated and shaded to prevent heat gain. It is also good practice to flush the drinker lines at regular intervals in hot weather to keep the water as cool as possible.

For vaccination the target water temperature should be <20^{0}C (68^{0}F). In hot water this can be achieved through the addition of ice to the storage tank before vaccination commences. It is important to ensure that all the ice is melted before addition of the vaccine to prevent non-uniform mixing.

Drinking Systems

In most modern broiler units, nipple, drinkers are the system of choice; these have the advantage of reducing disease spread, providing cleaner water, and reducing the labour requirements for clean out. However, good management is necessary for the proper operation of nipple drinker systems. Management factors that influence water intake in such systems are water line height (brids should lift their heads to reach the nipple drinker which should be higher than the bird's back to prevent bumping and leakage, (see Figure 3), water line maintenance (regular flushing and cleaning), drinker line location, and water pressure.

Nipple flow rate will also influence water consumption and should be checked regularly against the manufacturer's recommendation. The flow rate should be correct in all drinker lines throughout their entire length. For young chicks, water pressure (and flow rate) should be low. Pressure should be gradually increased with age and weight so that water flow is increased as birds get older in accordance with demand. As a general rule, water pressure should be adjusted so that there is a flow rate of at least 60 ml/min available for each nipple. To achieve good performance the nipple lines should be controlled to meet the birds' requirement rather than to simply protect the litter. In general, the systems with higher flow rates produce better growth rates by increasing both feed and water consumption, but water leakage and litter deterioration is more likely.

The negative growth impact of low nipple flow rates is most commonly seen in birds growing to higher weights (>2kg [4.4lb]), where the increased water demand cannot be met and feed intake is reduced. The effect of low nipple flow rates is even clearer if the stocking density is increased and the bird:nipple or bird:drinker ratio is high. As a useful guide, use the Lott equation to calculate static weekly flow: **(weeks of age)* 7 + 20 ml/min** may be a helpful reference.

Where bell drinkers are the system of choice, drinkers should be cleaned daily to prevent the build up of organic matter. Height should be adjusted also that the base of the drinker is level with the broilers back from 18 days onward (Figure 3).

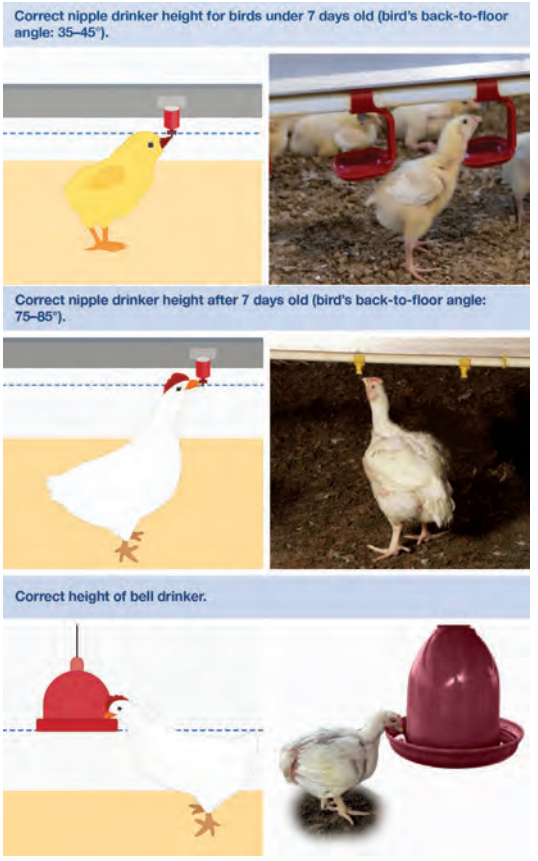


Fig. 3: Drinker Height of Bell and Nipple Type Drinkers.

No matter what drinker system is installed the provision of adequate drinker space is essential if water intake is not to bereduced. As a guide, 83 nipples or 8 bell drinkers per 1000 birds should be provided post-brooding. Where ambient temperatures and/or heavier liveweights (>2 kg [4.4 lb]) are used, drinker space should be increased by up to 50% of these guidelines.

Key Points

- In most broiler units, nipple drinkers are the system of choice. Good management of these systems is critical, with water line maintenance, drinker line location, after pressure and nipple flow rate all affecting water intake
- Regardless of the water system in place, drinker height and provision of adequate drinking space is critical

Feed Effect On Water Intake

Any nutrient that promotes mineral excretion through the kidneys also promotes increased water consumption. Therefore, excess minerals in feed or water above nutritional requirements will lead to an increase in water intake. This is also true for high protein diets where any protein not used for protein synthesis is deaminated and excreted in the urine. This energy-demanding process is associated with an increase in water loss.

In particular, the presence of inorganic elements such as sodium (Na), potassium (K), and chloride (Cl) will be associated with increased water consumption and wetter droppings. Moderate increase in dietary sodium is not normally a problem where birds have access to low sodium drinking water; they will increase the water intake if the diet is high in salt and excrete the excess. However, in areas where water sodium levels are elevated, it is important to factor this added supply into practical diet formulation, otherwise unevenness and or poor growth rate will occur. Recent Ross Nutritional Specifications specify 0.18-0.23% sodium in broiler diets. These reflect total sodium intake and, therefore, any contribution from the water should be included.

The dietary requirement for potassium is low, 0.6-0.9% being adequate, levels of intake above this may, however, have a thirst-inducing effect, increasing faecal moisture. This

is normally seen where soya is used as the single protein source to provide high protein starter diets. The general standard should be to control dietary potassium to a total intake of <0.9%.

Chloride levels should equal sodium levels (0.18-0.23%). The total chloride level is generally constrained by delivering a proportion of the sodium requirement as sodium bicarbonate rather than as salt (sodium chloride). Deficiency states are uncommon.

Water Quality

A supply of clean, uncontaminated water should be freely available to the birds at all times. However, depending on the source, the water supplied to the birds may contain excessive amounts of various minerals or be contaminated with bacteria. Acceptable levels of minerals and organic matter in the water supply are given in Table 1.

Key Points

- Excess levels of some inorganic elements such as Na, K and Cl will increase water intake and the occurrence of water droppings
- Dietary levels of these elements should be in line with Aviagen nutritional recommendations

Regular assessments of water quality are necessary for monitoring microbial load and mineral content. The water supply should be checked for the level of calcium salts (hardness), salinity, and nitrates. After cleaning out and prior to chick delivery, water should be sampled for bacterial contamination at source, from storage tanks and from drinkers.

Regular assessments of water quality throughout the production period itself should also be made. Ideally, these should be taken from a tap between the tank and the first drinker. Where the facility of a tap does not exist, the water sample should be taken from the first drinker. The main water connection at the top of the drinker should be removed and drained so that any build-up of bacteria and debris can be flushed through allowing an accurate water sample to be taken. Water should be left running for at least 2 to 3 minutes before the sample is taken. As with all testing, the results should properly reflect the water status and, therefore, care to avoid contamination either during sampling or during transport to the laboratory is necessary.

If proper maintenance of the water line does not occur, microbial contamination can build up, affecting bird performance, reducing the effectiveness of medication and vaccination and reducing nipple flow rate. Implementing a regular water sanitation and line cleaning program will prevent the build-up of microbial contamination. Controlling bacterial load is much more difficult with open drinker systems as they are exposed to contamination by faecal dust and the oral and nasal secretions of birds as they drink. (Table 2).

Closed nipple systems have the advantage of reducing disease spread, but even with these, dosing with a sanitiser that is effective in the presence of organic load and biofilms is regularly required. Chlorination to give between 3 and 5 ppm at drinker level (using for example chlorine dioxide), or UV radiation are reflective means of controlling bacterial contamination. Treatment should occur at the point of water entry into the house.

Higher levels of calcium salts or iron in the water may lead to the valves and pipes of the drinker system becoming blocked. Where this is a problem, it is advisable to filter the supply using a filter which has a mesh of 40-50 microns. For further information on water line sanitation programs refer to Aviagen Brief-Water Line Sanitation. 2021.

TABLE 1: Water Quality Criteria for Poultry

CRITERIA	CONCENTRATION (PPM)	COMMENTS
Total Dissolved Solids (TDS)	<1,000	Good.
	1,000-3,000	Satisfactory: Wet droppings may result at the upper limit.
	3,000-5,000	Poor: Wet droppings, reduced water intake, poor growth, and increased mortality.
	>5,000	Unsatisfactory.
Hardness	<100 Soft	Good: No problems.
	>100 Hard	Satisfactory: No problem for poultry, but can interfere with effectiveness of soap and many disinfectants and medications administered via water.
pH	<6	Poor: Performance problem, corrosion of water system.
	6.0-6.4	Poor: Potential problems.
	6.5-8.5	Satisfactory: Recommended for poultry.
	>8.6	Unsatisfactory.
Sulfates	<200	Satisfactory: May have a laxative effect if sodium (Na) or magnesium (Mg) is >50 ppm.
	200-250	Maximum desirable level.
	250-500	May have a laxative effect.
	500-1,000	Poor: Laxative effect (birds may adjust), can interfere with copper absorption; additive laxative effect when combined with chlorides.
	>1,000	Unsatisfactory: Increased water intake and wet droppings, health hazard for the young birds.
Chloride	<250	Satisfactory: Maximum desirable level, levels as low as 14 ppm may cause problems if sodium is >50 ppm.
	250-500	Acceptable with caution.
	>500	Unsatisfactory: Laxative effect, wet droppings, reduced feed intake, increases water intake
Potassium	<300	Good: No problems.
	>300	Satisfactory: Depends on the alkalinity and pH.
Magnesium	50-125	Satisfactory: If sulfate level is >50 ppm magnesium sulfate (laxative) will form.
	>125	Laxative effect with intestinal irritation.
	300	Maximum desirable level.
Nitrate Nitrogen	10	Maximum (sometimes levels of 3 mg/L will affect performance).
Nitrates	Trace	Satisfactory.
	>Trace	Unsatisfactory: Health hazard (indicates organic material fecal contamination).
Iron	<0.3	Satisfactory.
	>0.3	Unsatisfactory: Growth of iron bacteria (clogs water system and bad odor).
Fluoride	2	Maximum desirable level.
	>40	Unsatisfactory: Causes soft bones.
Bacterial Coliforms	0 colony forming unit (CFU)/mL	Ideal: Levels above indicate fecal contamination.
Calcium	60	Average level.
Sodium	50-300	Satisfactory: Generally no problem, may cause loose droppings if sulfates are >50 ppm or if chloride is >14 ppm.

Key Points

- A supply of clean, uncontaminated water should be freely available at all times
- Regular assessments of water quality should be made to ensure microbial load and mineral content are within acceptable levels

TABLE 2: Effect of Drinker Types on Water Bacteria Contamination (Micro-Organisms/ml of Sample). Adapted from Macari and Amaral, 1997.

MICRO- ORGANISMS	NIPPLE		BELL DRINKER	
	Entrance+	End++	Entrance	End
Total Coliforms	640	3,300	1,600	1,700,000,000
Fecal Coliforms	130	230	1,000	80,000,000
Escherichia Coli	110	900	900	66,000,000
Fecal Streptococcus	55	1,200	2,000	36,000,000
Mesofiles Micro-Organisms+++	24,000	700,000,000	86,000	1,400,000,000

NOTES
+Entrance means the first drinker in the chicken house
++ End means the last drinker in the chicken house
+++ Mesofiles Micro-Organisms – total count of saprophytes and pathogenic microorganisms
The water was not treated.

Conclusion

Water is an essential ingredient for life, a clean supply of which should be readily available from placement throughout production. Any restriction in water intake or contamination of water will ultimately affect the growth rate and overall performance of the bird. There are many factors that can affect water intake including age, sex, environmental temperature, water temperature and the drinker system type. The bacterial and physical quality of water should be monitored regularly, and where required, corrective action should be taken to ensure that bird performance is not compromised.

In Summary

- Unrestricted access to a source of good quality water at an appropriate delivery temperature (10-12^{0}C/50-54^{0}F) should be available
- Provide adequate drinker space and ensure that drinkers are easily accessed by the whole flock
- Monitor the feed to water ratio daily to check that birds are drinking sufficient water
- Make allowances for increased water intake at higher temperature (6.5% increase per degree over 21^{0}C (70^{0}F)
- In hot weather, take steps to ensure that water is as cool as possible, e.g. flush drinker lines, use a cool pad, position tankers and drinkers underground or insulate
- Regular testing of the water supply for temperature, bacterial load, and mineral content should occur and where necessary the appropriate corrective action taken

References

Bailey, M. 1999. The water requirements of poultry. In Recent Developments in Poultry Nutrition 2 (ed J. Wiseman and P.C. Garnsworthy), pp 321-337. Nottingham: Nottingham University Press, U.K.

Baker, A. and Teeter, R.G.1994. Drinking water and potassium chloride supplementation effects on broiler body temperature and performance during heat stress. Journal of applied Poultry Research, pp 87-92.

Macari, M. and Amaral,L.A.1997. Importance andQualidade da Agua Na Criacao de Frangos de Corte : Tipos, Vantagens e Desvantagens. Anais da Apinco Campinas, pp 121-143.

National Research Council, 1994. Nutrient requirements of poultry, 9th Rev. Ed. NAS-NRC, Washington, D.C.

Singleton, R. 2004. September issue. Hot weather broiler and breeder management. In Asian Poultry Magazine, pp 26-29.

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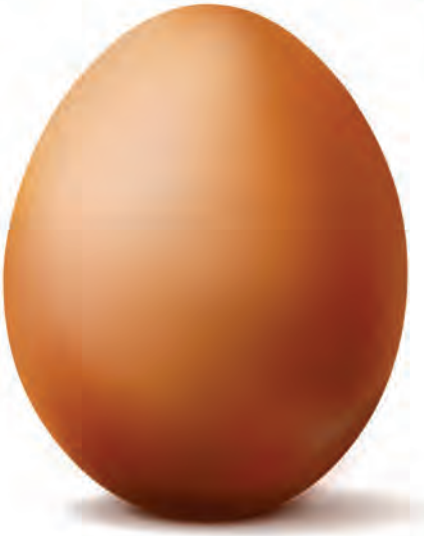

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Article

Mycoplasma-Associated Respiratory Disease in Poultry: Pathogenesis, Transmission and Modern Control Strategies

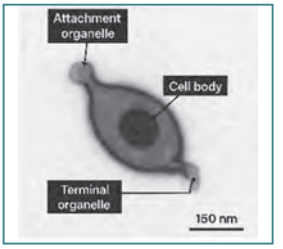


Dr. Sanjay Singhal
Chief Operating Officer
Dr. Kishor Gedam
Product Manager
Stallen South Asia Pvt. Ltd

Introduction

Respiratory disease remains a major limitation to productivity and welfare in commercial poultry production worldwide Among bacterial pathogens, Mycoplasma gallisepticum (MG) and Mycoplasma synoviae (MS) are of particular importance due to their ability to establish chronic infections, interact synergistically with respiratory viruses, and persist within intensive production systems[1,2]. The epidemiological and clinical impact of Mycoplasma infections has increased in recent decades as a consequence of production intensification, environmental stressors, viral evolution, and declining antimicrobial efficacy[3]. These factors have shifted Mycoplasma infection from a discrete disease entity to a complex, multifactorial respiratory syndrome requiring integrated management and targeted therapeutic strategies.

Etiology and Biological Characteristics

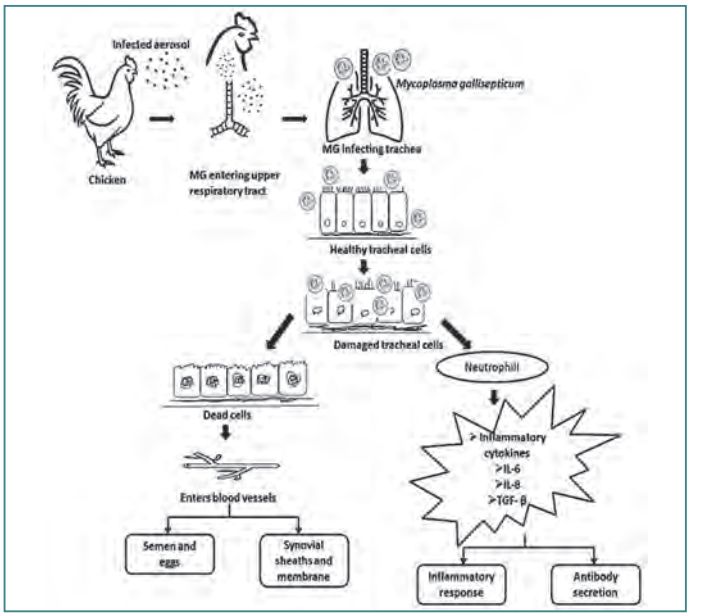


MG and MS belong to the class Mollicutes, characterised by the absence of a cell wall, reduced genome size, limited metabolic capacity, and strict dependence on host-derived nutrients[4]. The lack of a cell wall confers intrinsic resistance to β-lactam antimicrobials and allows close adherence to host cell membranes. High genetic plasticity and phase-variable surface lipoproteins facilitate antigenic variation and immune evasion, enabling long-term persistence within the host [4,5].

Pathogenesis and Lesion Development

Adherence to the respiratory epithelium is the critical initial step in Mycoplasma pathogenesis. MG and MS attach to ciliated epithelial cells of the trachea, lungs, air sacs, and conjunctiva via membrane-bound adhesins localised in specialised tip structures, including surface lipoproteins such as GapA and CrmA[4,6]. Following colonisation, Mycoplasmas induce ciliostasis, epithelial degeneration, and impairment of mucociliary clearance, promoting persistent infection and secondary bacterial invasion.

The host inflammatory response plays a central role in lesion development. Mycoplasma lipoproteins activate toll-like receptor-2 pathways, stimulating epithelial cells and macrophages to release pro-inflammatory cytokines such as IL-1β, IL-6, and TNF-α [7]. These responses result in mucosal edema, glandular hyperplasia, mucosal thickening, and accumulation of catarrhal to caseous exudate within the air sacs. Gross lesions commonly include airsacculitis, tracheitis, and, in complicated cases, fibrinous pericarditis and perihepatitis [2]. MS may disseminate to synovial tissues, causing synovitis and lameness, and is strongly associated with eggshell apex abnormalities (EAA) in layers [8].



Transmission Dynamics and Epidemiology

MG and MS persist in poultry populations through both vertical and horizontal transmission. Vertical transmission via infected eggs results in early colonisation of chicks at hatch and contributes significantly to economic losses [9]. Horizontal transmission occurs via aerosols, respiratory secretions, contaminated feed and water, and mechanical spread through personnel and

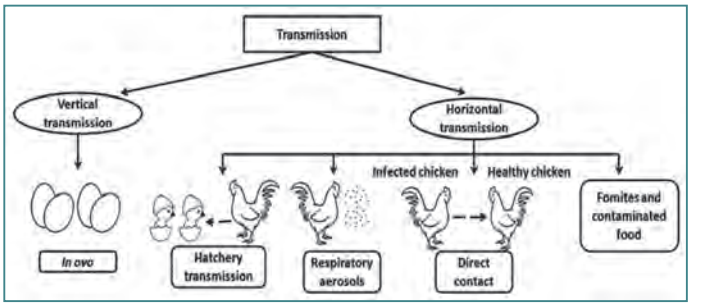


Fig. 2 Depiction of Mycoplasma transmission in commercial poultry

equipment[2]. Mycoplasmas may survive for several hours in dust and organic material, facilitating indirect transmission. Sub clinically infected carrier birds that intermittently shed organisms further complicate detection and control, particularly in multi-age production systems [1].

Disease Synergy and Environmental Influences

In commercial poultry, Mycoplasma infections rarely occur as single-agent diseases. MG infection predisposes the respiratory tract to enhanced replication of infectious bronchitis virus (IBV), resulting in increased air sac lesion severity, prolonged viral shedding, and higher viral loads [10]. MS infection, particularly in association with nephropathogenic IBV strains, has been strongly linked to EAA, leading to downgraded eggs, reduced hatchability, and sustained production losses [8].

Synergistic interactions between Mycoplasma spp. and Newcastle disease virus (NDV) have also been reported, with even lentogenic NDV strains producing severe respiratory disease in the presence of Mycoplasma due to amplified epithelial damage and impaired mucosal immunity [11]. Environmental stressors further exacerbate disease expression; ammonia impairs ciliary function, dust facilitates deep respiratory deposition of pathogens, and temperature stress suppresses mucosal immunity [3].

Antimicrobial Challenges in Mycoplasma Control

Antimicrobial therapy remains an important component of Mycoplasma control; however, increasing antimicrobial resistance has reduced the effectiveness of traditional agents. Rising minimum inhibitory concentrations (MICs) have been reported for macrolides, tetracyclines, and fluoroquinolones commonly used in poultry [12-14]. The absence of a cell wall, high mutation rates, chronic persistence, and inappropriate antimicrobial use contribute to resistance development and therapeutic failure [12,13]. In addition, Mycoplasmas adhere closely to host cell membranes and may occupy intracellular niches, limiting the efficacy of antimicrobials with poor tissue penetration.

Comparative Antimicrobial Activity Against Avian Mycoplasmas

Table 1: summarises comparative in vitro activity (MIC_{90} values) of antimicrobials commonly used in Mycoplasma control

Antimicrobial	MG MIC_{90} (µg/mL)	MS MIC_{90} (µg/mL)
Tylvalosin	0.008–0.03	0.01–0.05
Tylosin	0.06–0.5	0.1–1.0
Tilmicosin	0.03–0.25	0.06–0.5
Doxycycline	0.25–2.0	0.5–4.0
Enrofloxacin	0.12–1.0	0.25–2.0

(12-15)

Pharmacological Considerations for the Use of Tylvalosin

Tylvalosin is a semi-synthetic macrolide developed to address pharmacological limitations of earlier-generation antimicrobials. Structural modification of the tylosin molecule enhances lipophilicity, resulting in improved membrane permeability, intracellular accumulation, and tissue retention [16]. Pharmacokinetic studies demonstrate rapid oral absorption and extensive tissue distribution, with lung concentrations four- to eight-fold higher than plasma levels [17].

In vitro studies consistently report low MIC_{90} values against MG and MS (Table 1), indicating strong intrinsic activity against contemporary field isolates [15]. Importantly, Tylvalosin demonstrates superior intracellular penetration, including accumulation within macrophages, enabling effective targeting of intracellular Mycoplasma populations [16]. Beyond antimicrobial activity, Tylvalosin exhibits immunomodulatory effects, including reduced production of TNF-α and IL-6 and decreased neutrophil infiltration, which may mitigate excessive inflammatory responses during Mycoplasma–viral synergistic infections *(18)*.

Table 2. Pharmacokinetic and Pharmacodynamic Properties of Tylvalosin Compared with Other Antimicrobials

Parameter	Tylvalosin	Tylosin	Tilmicosin	Doxycycline
Lung:plasma ratio	4–8 : 1	~1–2 : 1	~3–4 : 1	~1 : 1
Intracellular penetration	High	Low-moderate	Moderate	Moderate
Tissue retention	Prolonged	Short-moderate	Prolonged	Moderate
Anti-inflammatory effects	Demonstrated	Not reported	Not reported	Not reported

(16–18)

Integration of Tylvalosininto Comprehensive Control Programs

While antimicrobial therapy alone cannot eradicate Mycoplasma, Tylvalosin represents a rational option when integrated into comprehensive control programs including biosecurity, environmental optimisation, vaccination against respiratory viruses, and routine monitoring using PCR and serology [1,2]. Field studies in broilers, layers, and breeders demonstrate improved respiratory health, production performance, and reduced vertical transmission when Tylvalosin is applied strategically [8,19].

Conclusion

Mycoplasma-associated respiratory disease remains a significant challenge in modern poultry production due to pathogen persistence, viral synergy, environmental stress, and antimicrobial resistance. Tylvalosin, with its favorable pharmacokinetic profile, strong activity against MG and MS, intracellular penetration, and immunomodulatory properties, addresses several limitations of traditional antimicrobials. When incorporated into integrated disease management strategies, Tylvalosin contributes meaningfully to improved respiratory health and production outcomes in poultry.

References:

1. *Ley DH. Mycoplasma gallisepticum infection. Diseases of Poultry.*
2. *Kleven SH. Control of avian mycoplasmosis. Avian Dis. 2008.*
3. *Cook JKA et al. Infectious bronchitis and respiratory disease complexity. Avian Pathol.*
4. *Razin S et al. Molecular biology of Mycoplasmas. Microbiol Mol Biol Rev. 1998.*
5. *Gautier-Bouchardon AV. Antimicrobial resistance in avian Mycoplasma. MicrobiolSpectr. 2018.*
6. *Evans JD et al. Adhesion mechanisms of M. gallisepticum. Avian Dis.*
7. *Muhlradt PF et al. Mycoplasma lipoproteins and immune activation. Infect Immun. 1997.*
8. *Catania S et al. Mycoplasma synoviae and eggshell apex abnormalities. Avian Pathol. 2010.*
9. *Carpenter TE et al. Economic impact of vertical MG transmission. Avian Dis. 1981.*
10. *Evans RD. Synergism between MG and IBV. Avian Dis. 1998.*
11. *Kleven SH. NDV-Mycoplasma interactions. Avian Dis. 2008.*
12. *Hannan PC. Antibiotic resistance in Mycoplasma. J Vet PharmacolTher. 2000.*
13. *Le Carrou J et al. MIC trends in avian Mycoplasma. Vet Microbiol. 2006.*
14. *Lysnyansky I et al. In vitro susceptibility of avian Mycoplasmas. Avian Pathol. 2015.*
15. *Gautier-Bouchardon AV et al. Resistance mechanisms in avian Mycoplasmas. MicrobiolSpectr. 2018.*
16. *Fischer AH et al. Macrolide intracellular pharmacodynamics. J AntimicrobChemother. 2015.*
17. *Taylor DJ. Macrolide pharmacokinetics in poultry. Vet J. 2012.*
18. *Sirimalaisuwan A et al. Anti-inflammatory effects of tylvalosin. Res Vet Sci. 2013.*
19. *McLaren J et al. Clinical efficacy of tylvalosin in broilers. Poultry Sci. 2017.*

Article

Pathogenesis, Prevention and Treatment of Gout in Chicken

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Gout - a form of inflammatory arthritis, is caused by overproduction or underproduction of uric acid, deposited in joints, on tendons and the surrounding tissues. Chickens with impaired renal function cannot get rid of uric acid efficiently, leading to accumulation within the blood – a condition called hyperuricemia. The two forms of this metabolic disorder are visceral and articular gout.

Genetic selection for maximum egg and meat production paves the way for greater incidence of metabolic disorders within the birds. The abnormal biochemical reactions can be due to improper functioning of organs like kidney, liver, heart and lungs. Poultry industry is facing huge challenges to minimise the losses from gout particularly when it is affecting young chicks in masses. Gout leads to mortality, production losses and carcass condemnation. Massive outbreaks of renal gout often characterised by heavy mortality in starter chicks resulting to uneven growth is a concern in many poultry farms. The main features of avian gout are loss of appetite, depression, white semi-mucus-like feces containing large amount of uric acid.

Etiology and Aggravating Factors of Gout

- Gout in poultry has multifactorial origin and can be associated with infections, nutritional imbalance, and feed toxicity or in combination that causes impaired renal function or kidney damage
- High sodium bicarbonate, copper sulphate, calcium and vitamin D_3 with low phosphorus in feed, more than 0.3% salt level and feed containing above 30% crude protein reduced water intake resulting in hyperuricemia and gout in birds with 70% of the kidney dysfunctional cases. Adulteration of protein supplements with urea, vitamin A and D deficiency, prolonged dehydration, over dosage of certain antibiotics like sulphas, amikacin, gentamycin and nitrofurosone etc. or poisoning of feed with disinfectants like cresol and phenol, can trigger gout in birds
- Infectious diseases such as nephro-pathogenic infectious bronchitis virus (IBV), avian nephritis virus (ANV), chicken Astrovirus (CAstV) are the leading causes of gout affecting the poultry industry. In the Indian subcontinent, ANV and CAstV are the two prevailing viruses of concern other than IBV. From 80% of field reports CAstV were detected. Avian nephritis virus not only affects kidneys but also causes enteritis in broiler chicks. Infectious bursal disease virus also produces kidney enlargement with prominent tubules containing urate deposition
- Aflatoxin – primarily a hepatotoxic, also induces nephrotocxicity. High concentration of sodium chloride in chicken feed increases susceptibility to aflatoxicosis. Ochratoxin, citrinin and oosporein and many of the pesticide or insecticide residues cause inflammation of kidney tubules and ureters. This nephrotoxic effects from mycotoxins and phytotoxins impairs kidney functions leading to gout
- Water deprivation due to improper brooding temperature (too high or too low), inadequate number of waterers and improper water height, Water withdrawal during vaccination and too low water pH leads to water rejection
- Improper hatchery management – inadequate egg storage and incubation, poor chick holding room conditions, chicks held too long in hatchery and long distance transportation without water

Types of Gout

In poultry, based on location of urate deposition, gout has been classified as: visceral gout, renal gout and articular gout. In chicken, normal blood uric acid level of 5-7mg/100 ml could be in excess of 45 mg/100 ml.

- **Visceral Gout:** Most common gout in poultry and acute in nature affecting both broiler and layer chicks, as young as 2-3 days old male and female birds. In layers, pullets above 14 weeks are more likely affected. Mortality due to visceral gout ranges from 15-35% and 100% of the birds can be affected. Postmortem examination reveals emaciated carcasses with urate deposition on multiple visceral organs like kidney, liver, heart and gut as well as on the peritoneal surface and thoracic wall. Kidney tubules are distended with brittle white urate calculi.

- **Renal Gout:** Urate crystals are mainly precipitated in renal parenchyma or ureter and results in obstructive uropathy

- **Articular Gout:** Mostly chronic in nature, has sporadic prevalence and affects male individual birds. In this form of gout, urate deposition develops on synovial membrane of tarso-metatarsal joint, hip joint, wing joint and encourage a granulomatous reaction

Chicken Astrovirus and Gout

Chicken astrovirus has been implicated in severe kidney damage in both broiler and layer chicks causing visceral and articular gout characterised by enteric disease and locomotion problem in chicken and turkeys. The major post-mortem findings were swollen kidneys, prominent ureters and visceral gout. CAstV infected embryos shows stunted growth, liver necrosis, enlarged kidney with deposition of urate crystals. Broiler chick mortality of 40% and more have been noticed in the first 14 days with visceral and articular gout of avian astrovirus origin.

Avian Nephritis Virus and Gout

Avian nephritis virus infects only the chickens; day old broiler chicks are more susceptible and disease has been reported up to 4 weeks of age. Young chicken infected with ANV have diarrhea, growth retardation, kidney damage, interstitialnephritis, tubelonephritis, and gout.

Prevention and Control

A holistic approach to gout management starts from breeder level up to the commercial farm. Different avian viruses including IBV, ANV and CAstV have been reported to cause gout, the mechanism underlying still remains unclear in gout pathogenesis.

- Disease management by reviewing vaccination program in breeders and commercial flocks on infectious bronchitis, avian nephritis virus and chicken astrovirus infection will help prevent transmission of virus to progeny. Vaccination of breeders with live and inactivated nephropathogenic infectious bronchitis virus and chicken astrovirus prevent gout in young commercial broiler and layer chicks. To eliminate astrovirus infection, contaminated farm should be thoroughly disinfected and a minimum of 14 days downtime is required. All the manure should be removed and disposed safely. The floor, walls, and all equipment be adequately disinfected using formaldehyde, beta-propiolactone or peroxymonosulphate. Chicks infected with CAstV are extremely susceptible to dehydration, fresh water and electrolytes are available to chicks whenever possible.

Two aspects need to be covered in deciding therapeutic regimen- use of anti-gout medications along with kidney revitalisers given to normalise the renal function and as per requirements, anti-viral and potent oral toxin binders. Allopurinol and febuxostat are potential anti-hyperuricemic and anti-gout agent in chicken.

Allopurinol, a xanthine oxidase inhibitor drug is available at 2.5-5% @ 15 mg per kg body weight orally or intramuscular twice daily until zero mortality decrease formation and help in dissolution of uric acid crystals thus prevent progression to chronic gouty arthritis.

Febuxostat, a non-purine selective inhibitor of xanthine oxidase works by non-competitively blocking the molybdenum pterincentre (active site on xanthine oxidase) and reduce production of uric acid.

Vitamin A, vinegar, potassium chloride, ammonium chloride, ammonium sulfate, DL Methionine and methionine hydroxyl analogue (Alimet) as urine acidifiers through water or feed help reduce gout progression.

The ultimate way to lower serum urate level and dissolve the crystal deposits by enhanced elimination is the use of uricosuric compounds like probenecid, colchicine, benzbromarone and sulfinpyrazone for up to 10 weeks.

Copper sulphate should not be used for medication.

- Proper screening of raw materials for mycotoxins, supplementation of good quality toxin binder and acidifiers will minimise kidney damage

  Ammonium chloride, ammonium sulphate, methionine and MHA @ 5-7 kg per ton of feed is recommended during gout mortality

  Ideal electrolyte balance with sodium coming from sodium bicarbonate source reduced in the incidence of gout. $NaHCO_3$ level more than 2 kg per ton feed should be avoided. Ensure proper calcium phosphorus ration in feed

  Feed protein should not exceed the breed requirements. Feed dilution with ground maize for 3-5 days to reduce exertion of kidneys to get rid of uric acid

- With adequate ventilation in the farm and optimum brooding temperature chicks will be encouraged to drink and eat. Correct egg handling, storage temperature and providing optimum incubation temperature and humidity will avoid excessive water loss from hatching eggs and reduce dehydration

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REINVENTING INDIA'S LIVESTOCK ECONOMY

In a future-ready vision for livestock management—one that seamlessly integrates science, sustainability, farmer prosperity and food security, **Dr.Tarun Shridhar**, Director General, Indian Chamber of Food and Agriculture; and Former Secretary, Ministry of Fisheries, Animal Husbandry and Dairying, Government of India, addresses beyond the urgent need to move ahead of traditional practices towards innovation-led, value-driven systems where animal health, productivity, climate resilience and rural livelihoods converge to power India's next phase of inclusive growth

Setting the Context: "Basket Case" to "Breadbasket"

Let me begin with a reflection. Not too long ago, India was derided as an agriculture "basket case," characterised by perpetual shortages and chronic distress. During the 1950s and 60s, our food sector was defined as "ship to mouth"—a pejorative for our dependence upon imports and foreign aid. Who in our generation can forget PL-480? The wheat imported under this law from the USA was described as "fit enough only for the pigs to eat"—ironically, it also used to be in short supply.

Today, we have reason to thump our chests. "Basket Case" has now become the "Breadbasket" of the world. The Economist magazine, otherwise not too kind towards us, recently titled an article on Indian agriculture: "The World's Next Food Superpower." During the global food scare following Russia's invasion of Ukraine, India came to the rescue of the global community, emerging as a major exporter of rice and wheat. We sent more than 60 million tonnes of wheat to Afghanistan during the past two years.

Understanding the Viksit Bharat Vision

What is Viksit Bharat? It represents India's transformative ambition to achieve developed nation status by the 100th anniversary of our independence in 2047. As Confucius advised: "If you think in terms of a year, plant a seed; if in terms of ten years, plant trees; if in terms of 100 years, teach the people."

The foundational framework rests upon four strategic pillars: Yuva (Youth), Garib (Poor), Mahila (Women), and Kisan (Farmers)—emphasising inclusive growth as a core principle. Animal Husbandry strongly stands on these four pillars. The critical question before us is: how do we bring all of them into its fold so that it contributes truly to Viksit Bharat?

Today, half of our workforce is engaged in agriculture, yet this half contributes only 18% to the national GDP. Curiously, Viksit Bharat envisions bringing agriculture's contribution to GDP down to 12%. This may appear contradictory, but it is the hallmark of all advanced nations that the contribution of the primary sector gradually diminishes while the secondary and tertiary sectors rise.

For the 'Kisan' pillar to thrive amidst this structural transformation, the focus must shift from the quantitative share of agricultural output to qualitative enhancement—a significant increase in productivity per farmer, robust emphasis on value addition, and strategic diversification of rural incomes beyond traditional crop cultivation.

Livestock Sector: An Unsung Giant

Let me present some striking data. Our livestock population, the largest in the world, during 2023-24 created an output valued at about Rs. 19,00,000 crore. Add another Rs. 4,00,000 crore contributed by fishery, and the total value becomes a whopping Rs. 23,00,000 crore—constituting 6.80% of the nation's Gross Value Added.

In terms of contribution to the GVA of the agriculture sector, livestock contributes 31% while fishery stands at 8%. At constant prices, the compound annual growth rate registered by the sector during the past decade is an impressive 8%.

Against this background, we must ask: Is public investment, be it infusion of finance, infrastructure, policy ecosystem or governance priority, even remotely proportionate to the sector's contribution to the economy and nation building?

If the Green Revolution transformed a food-deficit nation into a food-secure nation, the White Revolution secured livelihoods and empowered rural producers—primarily women—and the Blue Revolution has been ushering in prosperity through activities which were hitherto mere livelihoods. Poultry has emerged as a business enterprise. Therefore, it becomes imperative that the political and governance agenda accord a rightful priority to this sector. It is NOT an allied sector of agriculture but the spine of food and nutrition.

Game Changers

White Revolution: A Model of Empowerment

"I am in the business of empowerment. Milk is just a tool for that." This simple statement of Dr. Verghese Kurien captures the essence of the White Revolution, a movement that catapulted a woefully milk-deficit India into an undisputed global leader.

A paltry trickle of 17 million metric tonnes with a per capita availability of 130 grams in 1950-51 has grown into a flood of 247.87 million tonnes—constituting more than one-fourth of global milk production. Following us is the United States at a distant second with 102.45 million tonnes—not even half of ours. The 27 countries of the European Union collectively produced 162 million tonnes last year, about 86 million tonnes less than our production. Per capita availability stands at 485 grams per day as against the world average of 322.

The pivot of this model has been the cooperative structure. The two-village, 247-litres-per-day cooperative that began as Amul today handles 35 million litres a day, a contribution of nearly 3.75 million farmers, making it one of the top ten global dairy companies. This model has created a unique cooperative network across states comprising more than 16 million milk producers in 1,86,000 village milk societies affiliated to 222 district milk unions and 28 state milk federations.

"Our dairy is sustained because of this cooperative model," I have often emphasised. "We assure procurement prices to support the cooperative networks where even private buyers have to pay the stipulated amount to farmers."

The dairy sector is empowering local communities by creating gender balance, giving the sources of production and the tools of marketing in the hands of the primary producers. The story of milk is also a story of how our rural economy can be transformed by giving surplus cash in the hands of producers and ensuring that what the end consumer pays reaches the primary producer rather than mid-level processors and marketers.

Shrimp Story: Crisis to Triumph

India's shrimp aquaculture has been another fairy tale. The sector was at the verge of closure in the early 2000s. The White Spot Syndrome Virus spread faster than wildfire, leading to the closure of an enormous number of hatcheries and farms.

Introduction of the disease-resistant, though exotic, shrimp Litopenaeus vannamei appeared to be an answer. There was stiff opposition raising concerns about environmental and health repercussions of introducing an alien species. However, once introduced, it changed fortunes and revolutionised the sector overnight.

We now boast of an infrastructure of more than 600 shrimp hatcheries feeding nearly 1,75,000 hectares of farming, generating production of more than one million tonnes per annum—from a mere 76,000 tonnes in 2008-09. We now command 26% share of the global shrimp trade. Last year, we exported fish worth US$ 7.45 billion i.e. Rs. 63,000 crore; of this 66% was shrimp amounting to US$ 4.88 billion, Rs. 43,200 crore.

The Paradox: Richness of Production, Poverty of Productivity

It is a strange paradox that the richness of unparalleled production gains rests upon the poverty of productivity. The average yield per cow per day—indigenous and non-descript—stands at an embarrassing 3.86 kilograms; the performance of exotic and crossbreeds at 9.05 kilograms is nothing to boast about.

The average per day in prominent milk-producing regions of the developed world exceeds 25 kilograms, with significant numbers yielding 50 kilograms and more. Dairy cattle and buffaloes in our country primarily consume crop residues and by-products; poor nutrition results in low yield and inferior quality. This illustration holds true all across the sector. Effective interventions, scientific and economic, are required in both breed and feed.

Buffalo: India's Undervalued Asset

Let me draw your attention to an often-neglected national asset. 43.15% of India's milk production comes from the buffalo—an animal we have become indifferent to in our policies despite its milk being richer in fat and despite owning three-fourths of the global buffalo population.

With 76% of global buffalo milk production, India is the world leader. In 2018-19, more than 51 million buffaloes produced 92 million tonnes, while 74 million cows produced nearly 90 million tonnes. On average, buffaloes outperform cows in milk yield, and the quality is superior—buffalo milk averages 6.7% fat compared to 4.4% for cow milk.

Moreover, the buffalo remains a productive economic asset beyond its milch life. Unlike the cow, it is not constrained by religious, cultural or social taboos. Buffalo meat is one of our biggest agricultural exports—more than 1.3 million tonnes worth US$ 3.8 billion, Rs. 31,000 crores in 2023-24.

While stray cattle are a problem with more than 5 million on the loose, stray buffaloes are virtually unknown. Let there be a concerted plan to nourish this treasure.

Despite only a miniscule four lakh buffaloes, Italy guards them as a precious national wealth. The ubiquitous Mozzarella cheese on the globally popular Italian dish pizza is derived from the buffalo milk in the country; and the "Mozzarella di bufala"

enjoys legal protection in the European Union. On the other hand, owning upwards of 60% of the global buffalo population and producing 76% of the global buffalo milk, we have somehow relegated it, the species of our own origin, to the margins of livestock policy and governance. In fact, nearly 97% global buffalo milk production is from Asia. So it is crystal clear that India is the world leader, several miles ahead of others. It makes us unique, for barring a few countries buffalo is an unknown entity; recognised if at all as a wild animal. In the larger interest of our farmers and for the continuing growth of the dairy sector, the critical importance of the buffalo must be recognised and underscored. Why are you all quiet?

Poultry: Powerhouse of Protein

The poultry industry stands as a vital pillar in realising the Viksit Bharat vision. India currently ranks as the 2nd largest egg producer globally with 149.11 billion eggs produced during 2024-25. About 85% comes from commercial poultry, signifying the evolution from traditional backyard activity to industrial enterprise.

In poultry meat production, India holds the 5th position worldwide with output of over 5 million tonnes, contributing nearly half of the country's total meat production. The sector provides directly and indirectly over 4 million job opportunities, predominantly in rural areas.

Yet, we face a silent nutrition crisis. Over 80% of our population fails to meet daily protein requirements, with 73% identified as protein-deficient. The average Indian consumes only 0.6 grams of protein per kilogram of body weight daily, significantly below the ICMR recommendation of 0.8 to 1 gram.

Per capita egg availability has risen to 106 eggs per year—impressive, but still below the National Institute of Nutrition recommendation of 180 eggs. Per capita annual consumption of poultry meat stands at about 3.4 kg, considerably below the recommended 11 kg. One of the lowest in the world. This substantial gap represents a strategic opportunity for intervention.

Policy Roadmap: Strategic Imperatives

1. Shift from Welfare to Investment

We would serve the sector well by clearly differentiating between public investment in agriculture and subsidies. At present, the bulk of public spending is biased towards providing cheap inputs. Cheap subsidised inputs compromise on quality and reduce incentive to perform better.

Within the sector, it is dairy, fish farming and poultry that have been regularly registering annual growth between 6 to 10%, whereas none of the financial incentives like input subsidies, loan waivers, or tax exemptions are available to these activities.

Income support and subsidies to offset high costs—yes. But let these not be confused with investment. There is no dearth of finance, but a dearth of good finance. Invest as much in infrastructure, R&D, digitalisation—basically in what generates greater monetary value to the farmer.

2. Transform Agriculture from Livelihood to Profession

We must make agriculture a profession of choice, not compulsion. This requires treating agriculture as business and encouraging financial returns on business principles. Our policy direction should shift focus from production to farmer—not merely in the idiom of welfare, but prosperity.

As Dr M.S. Swaminathan wisely said: "Agriculture can trigger job-led growth if it's intellectually satisfying and economically rewarding."

3. Embrace Technology and Innovation

Accelerated Breed Improvement Programme's sexed semen technology targets resulting in the birth of high milk-yielding females—translating into additional milk, annually valued at approximately Rs.1.5 lakh crore.

The Information Network for Animal Productivity and Health (INAPH) is creating the biggest global database of animals—an Aadhaar for livestock—which will enable effective and scientific management of India's livestock resources.

4. Address the Feed Challenge

Feed expenses constitute 65-70% of total production costs in poultry, making the sector's profitability highly sensitive to price fluctuations. The rising diversion of maize towards ethanol production creates a systemic conflict between energy production and nutritional security.

Strong policy interventions regarding imports of genetically modified maize and soybean meal, and incentivising domestic production of alternative, cost-effective feed ingredients, are the need of the hour.

5. Control Diseases for Export Competitiveness

The Rs. 14,000 crore programme to fully control Foot and Mouth Disease among livestock is a landmark initiative. Once we achieve full control in five years, with subsequent eradication, the World Organisation for Animal Health will certify us, opening major export markets currently restricted. Where does it stand today?

Effective disease surveillance and biosecurity are paramount for maintaining supply stability, preventing economic losses, and crucially, for growth in trade. International trade in poultry products is sensitive to a country's disease status.

6. Modernise Processing and Cold Chain Infrastructure

Over 90% of chicken is sold as live birds in wet markets—a traditional model presenting hygiene concerns, operational inefficiencies, and high price volatility. Only 8-10% of poultry meat undergoes value-added processing.

Strategic investments in modern processing units, robust cold chain logistics, and promoting packaged products will improve profitability, reduce waste, and enhance food safety—aligning with Viksit Bharat's goals of industrial modernisation.

7. Strengthen the Cooperative and FPO Model

Strengthening Farmer Producer Organisations and promoting rural entrepreneurship will ensure benefits of growth are equitably distributed, fostering broad-based rural prosperity. The cooperative model has been the backbone of our dairy success; we must extend it across the livestock sector.

8. The Fisheries Frontier: Blue Revolution 2.0

Creating a separate department for fisheries is a significant step. India is the world's second-largest fish producer with exports worth more than Rs. 63,000 crore. Fisheries are the country's single-largest agriculture export, with a growth rate of 6 to 10% in the past five years—compared to around 2.5% for the farm sector overall.

The Pradhan Mantri Matsya Sampada Yojana (PMMSY) with the highest-ever estimated investment of Rs. 20,050 crore over five years represents a watershed moment. First time ever, Kisan Credit Card facilities have been extended to fishers and fish farmers to help them meet working capital requirements.

9. Protecting Our Dairy: A Non-Negotiable Priority

I must emphasise one critical policy position that has emerged recently on account of the tariff wars and an aggressive posturing by several entities to make inroads into the Indian dairy market. The moment we allow the import of dairy products, we are totally going to kill our dairy sector. RBI research established that if India's dairy sector is thrown open, milk prices would drop by at least 15%, causing potential annual loss of Rs.1.03 lakh crore to dairy farmers.

Our dairy produces one-fourth of global production, a labour of millions of small farmers, and its combined value of close to Rs.11 lakh crore is more than the combined value of paddy and wheat produced every year. This is a non-negotiable priority.

Road Ahead

Joseph Stiglitz, the renowned economist, states: "What separates developing countries from developed countries is as much a gap in knowledge as a gap in resources."

We are truly destined to bridge this gap. And in this endeavour, the veterinary scientist community is central. You hold the keys to genetic improvement, disease control, nutrition science, and productivity enhancement that will transform our livestock sector.

We must diversify agriculture into truly a food production system which produces food of high quality and high value to all stakeholders across the value chain. We have to move away from primary food grains to value-added dairy products, poultry, aquaculture. That is where animal husbandry would very strongly support the dream of Viksit Bharat.

A word of caution: do not allow beliefs, sentiments and ideologies dictate science. Assert yourself.

In nutshell, our livestock sector could be well characterised by borrowing Dickensian idiom from the opening lines of his famous novel A Tale of Two Cities, "It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair..." We are the biggest, yet the smallest: we are way ahead of others in sheer numbers and quantity yet way behind in the output i.e. quality and value. We are the richest, yet we are the poorest: biggest and most diverse resource base, highest production but poor productivity levels; it is production by mass rather than mass production. The livestock sector offers the spring of hope, but alongside also lurks the winter of despair: the sector and all its sub-sectors have been registering an impressive and consistent growth over the years, even in the midst of a general stagnancy in the agriculture sector yet the levels of productivity and the quality of produce remain matters of serious concern.

Just as technology is fast changing the world, so can it revolutionise the livestock sector. In fact, the opportunities of harnessing modern technology for the advancement of livestock are several times over other activities because this sector has a very sound base of indigenous and traditional knowledge. After all, it is our great ancestors of the Indian subcontinent who deserve the credit for domesticating bovines for milk and the fowl for poultry. The driving force has been the spirit of innovation.

Let me conclude with this thought: Innovation is not just science or technology. Innovation is mind, creativity, thinking, challenging the status quo, and introducing newer and better practices. Speak in a voice which communicates science and common sense in a loud and clear manner. A veterinarian or a veterinary scientist is more, much more, than a doctor. He is a healer, a nutritionist, a manager, an economist, an animal psychologist, a communicator of divine insights and what not. So why should he just listen and not speak?

Let modern science and traditional wisdom blend to reinvent livestock management for a Viksit Bharat by 2047.

This article is adapted from the keynote address delivered by the author at the annual convention of the National Academy of Veterinary Sciences at Patna

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Article

Biofilms: The Bacterial Fortress

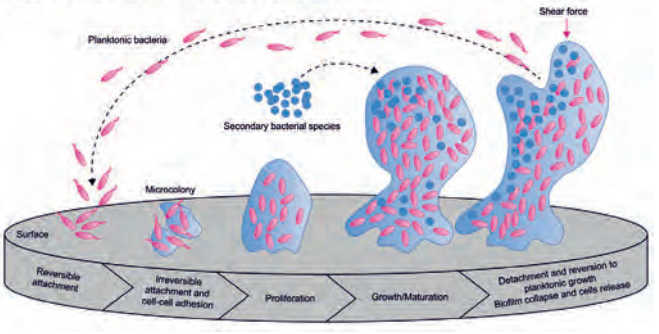
Technical Team
Huvepharma SEA (Pune) Pvt. Ltd.

One common survival strategy used by bacteria is to form biofilms. These communities and their inherent resistance to antimicrobial agents are at the root of recurrent bacterial infections in livestock rearing.

Bacteria have adapted to a "biofilmed" state to survive unfavourable environmental conditions such as those which are poorly oxygenated, have extremes in temperature or are lacking in nutrients. In the natural environment, biofilms act as a reservoir for microbial species, constitute a major component of the bacterial bio-mass and guarantee ecological balance. But in livestock buildings, they are a source of permanent contamination that is particularly difficult to eliminate.

A livestock rearing house is a closed space with a dynamic microbial ecosystem due to the high concentrations of organic matter, high temperatures and high humidity levels. The characteristics of this microbial ecosystem are determined by the microbiota of each animal and that of the herd. Animal excrement regularly enriches the microbiota of the building, especially with strains of enterococcus, coliforms in the tract of the animals. The presence of animals in the barn causes warm air current. This warm air rises to the top of the building, carrying with it many micro-organisms in the form of bioaerosols. Thus, all surfaces of the building become contaminated and biofilms are formed (see Figure 1).

Figure 1 - Steps leading to bacterial biofilm formation.



Biofilms are complex structures, constituting a considerable bacterial reserve in livestock buildings. They are formed on surfaces through the accumulation of stacked bacteria which secrete a protective polysaccharide or extracellular polymeric substances (EPS) during the maturation phase. This mucous matrix is excreted through a network of channels in which the medium can circulate.

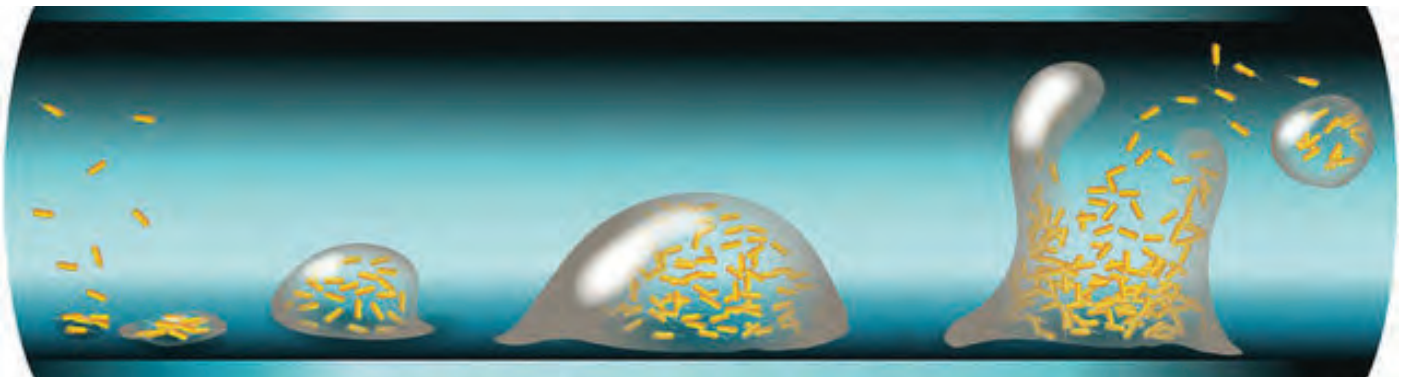
The thickness of the biofilm does not increase indefinitely. Large aggregates or single cells may detach from mature

biofilm and can directly seed other surfaces. The detachment of parts of the biofilm is partly due to variations in temperature and humidity inside the buildings. This contributes to airborne bacterial spread, causing increased infectious pressure and new animal contaminations.

The structures forming biofilms contain channels in which nutrients can circulate, and cells in different regions of a biofilm exhibit different gene expressions. The biofilm is, therefore, a mosaic of micro-niches containing different species but also different phenotypes of the same bacterial species. The cohesion of this microbial community relies on synergistic interactions and homeostatic mechanisms. The complexity of biofilm structure and metabolism has led to the analogy of biofilms to tissues of higher organisms (eukaryotes), highlighting their remarkable evolutionary importance. Bacteria in a biofilm can be 1,000 times more resistant than individual bacteria. They acquire increased resistance to antimicrobial agents in two main ways:

1) Physico-chemical resistance is the failure of an agent to penetrate the full depth of thebiofilm. Polymeric substances like those that make up the matrix of a biofilm are well known to retard the diffusion of antibiotics or disinfectants.
2) Extra-chromosomal resistance: Bacterial resistance to disinfectants is higher when bacteria are in biofilms, due to the acquisition of specific resistance genes carried by plasmids (circular periplasmic chromosomes). In a biofilm, the plasmids are transferable between bacteria by intercellular bridges. Thus, the acquired resistance can be quickly spread to all bacterial species via horizontal transfer.

There are numerous bacterial species and genera that cause infections in animals, and which may or may not have zoonotic



potential, can form biofilms. Some examples are:

- Salmonella
- Campylobacter
- Escherichia coli
- Pseudomonas
- Staphylococcus
- Streptococcus

Biofilms increase infectious pressure and bacterial resistance to antibiotics, disinfectants and the immune response of the host. In animal husbandry, contamination of surfaces, air conditioning, ventilation and water distribution system with bio-films is a huge problem. But several of these bacterial species also have an impact downstream in food industries because of their ability to cause infections or food poisoning in humans.

Biofilms are, therefore, a constant threat to biosecurity because of their ability to diffuse into the environment and colonise all kinds of media. Their resistance to extreme conditions, including disinfection procedures, only makes matters worse. Trying to disinfect without breaking biofilms is useless, and the best and most economical way to break the biofilm is to use detergents. Before the disinfection step, it is imperative to carry out a cleaning step with a detergent to dissolve and eliminate both the visible organic deposits and most of the EPS of the biofilm.

Adherence to this procedure and to general biosecurity management rules guarantees increased effectiveness of the disinfectant and suitable decreasing contamination of the surfaces before placing a new flock or herd in the building. Huvepharma, through its expertise in biosecurity and animal health, provides a range of detergents and disinfectants to eliminate biofilms.

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ROSS 308 AP BEST ACHIEVERS NOVEMBER-2025

Aviagen INDIA

Northern Region

COMPANY: Sampoorna Feeds
FARMER NAME: Mr.Jashandeep Singh Sidhu

NOVEMBER-2025	Top #1
Farm Type	Open House
State	PUNJAB
Chicks Placed	2509
Mean Age	33.0
Avg Body Wt	2460
FCR	1.260
cFCR	1.158
Livability%	97.0
Daily Gain	74.5
EPEF	573.9

Eastern Region

COMPANY: IB Group
FARMER NAME: Mr. Kamal Krishna Roy

NOVEMBER-2025	Top #1
Farm Type	Open House
State	BENGAL
Chicks Placed	1354
Mean Age	36.0
Avg Body Wt	2777
FCR	1.468
cFCR	1.295
Livability%	95.6
Daily Gain	77.1
EPEF	502.6

Central Region

COMPANY: Japfa
FARMER NAME: Mr. Suhas Patil

NOVEMBER-2025	Top #1
Farm Type	EC House
State	MAHARASHTRA
Chicks Placed	5972
Mean Age	33.4
Avg Body Wt	2463
FCR	1.369
cFCR	1.266
Livability%	97.1
Daily Gain	73.8
EPEF	523.3

South Region

COMPANY: IB Group
FARM NAME: K S Poultry Farms

NOVEMBER-2025	Top #1
Farm Type	EC House
State	KARNATAKA
Chicks Placed	25945
Mean Age	36.0
Avg Body Wt	2731
FCR	1.483
cFCR	1.321
Livability%	97.1
Daily Gain	75.9
EPEF	496.9

NOVEMBER-Top PERFORMANCE BY AREA

Area	Chicks Placed	Mean Age	BW	FCR	cFCR(2Kg)	Livability%	Daygain	EPEF
North EC House	12030	35.3	2631	1.370	1.230	97.2	74.5	528.3
North Open House	2509	33.0	2460	1.260	1.158	97.0	74.5	573.9
East EC House	6572	34.0	2357	1.427	1.348	97.2	69.3	472.2
East Open House	1354	36.0	2777	1.468	1.295	95.6	77.1	502.6
Central EC House	5972	33.4	2463	1.369	1.266	97.1	73.8	523.3
Central Open House	2793	32.3	2271	1.387	1.326	97.2	70.3	492.9
South EC House	25945	36.0	2731	1.483	1.321	97.1	75.9	496.9
South Open House	7616	36.0	2415	1.402	1.310	94.9	67.1	454.2

NOVEMBER-Top 10 FIELD PERFORMANCE

Flock	Farm Type	State	Chicks Placed	Mean Age	BW	FCR	cFCR	Livability%	Day Gain	EPEF
Flock 1	OPEN HOUSE	PUNJAB	2509	33.0	2460	1.260	1.158	97.0	74.5	573.9
Flock 2	OPEN HOUSE	PUNJAB	10390	33.0	2491	1.330	1.221	97.0	75.5	551.0
Flock 3	EC HOUSE	PUNJAB	12030	35.3	2631	1.370	1.230	97.2	74.5	528.3
Flock 4	OPEN HOUSE	PUNJAB	2505	32.1	2393	1.360	1.273	95.8	74.5	524.8
Flock 5	EC HOUSE	MAHARASHTRA	5972	33.4	2463	1.369	1.266	97.1	73.8	523.3
Flock 6	OPEN HOUSE	UTTAR PRADESH	9389	40.0	2960	1.347	1.134	95.1	74.0	522.3
Flock 7	OPEN HOUSE	PUNJAB	14630	32.0	2293	1.320	1.255	95.8	71.6	519.6
Flock 8	OPEN HOUSE	HARYANA	3775	29.0	1951	1.250	1.261	95.7	67.3	515.1
Flock 9	EC HOUSE	MAHARASHTRA	15489	32.6	2370	1.375	1.293	97.5	72.6	514.7
Flock 10	EC HOUSE	MAHARASHTRA	7875	35.0	2582	1.386	1.257	96.5	73.8	514.1

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First Person

In Conversation With...

From precision manufacturing enabled by cutting-edge technologies to integrated technical services and a newly inaugurated research facility, **Optima Life Sciences** is building a robust ecosystem where innovation moves seamlessly from the laboratory to the farm. Joining us for this exclusive conversation are two leaders driving this journey: **Dr. C. V. Chandrasekaran**, Vice President, Business Development and **Dr. Arindam Chatterjee**, Vice President, Strategy, Marketing & Technology

Dr. C. V. Chandrasekaran

Dr. Arindam Chatterjee

IPR **Dr. Chandrasekaran, Optima Life Sciences has grown into a science-driven enterprise over the past decade. How do you view the relationship between research, manufacturing excellence, and customer success in building such an organisation?**

CVC Research discovers value, manufacturing excellence delivers that value, and customer satisfaction reinforces it. Together, these three elements form a powerful and interdependent system. If excellence is lacking in any one of them, the system cannot function effectively. At Optima, all three operate at a consistently high level.

IPR **Both of you lead different strategic verticals. How do your roles complement each other in shaping a unified growth strategy?**

AC From an organisational standpoint, our roles are in different verticals. However, from a customer's perspective, there is only one Optima. Customers care about product performance and meaningful, relevant communication. My role focuses on strategic conceptualisation, defining the core marketing philosophy, and ensuring customer relevance. I also oversee technology, research, development, and advanced customer services. Front-end business development and sales execution are largely led by Dr. Chandrasekaran's team.

CVC Sales and marketing may have distinct responsibilities, but our shared objective is customer success. One function cannot perform effectively without the other.

IPR **Your Jejuri manufacturing facility is often highlighted as a benchmark for quality and precision. What truly makes it state-of-the-art?**

CVC Manufacturing excellence is what ultimately delivers value to the customer. Even the strongest research must be supported by an equally strong manufacturing foundation. Our advanced mixing technology achieves a coefficient of variation of less than 0.5%, ensuring exceptional uniformity, consistency, stability, and product efficacy.

IPR **What role does OptiServe play in transforming customer service into a performance-driven partnership?**

AC Customers do not view service as an add-on; it is a necessity. Many customer requirements go beyond products alone. OptiServe enables us to evolve from being a supplier to becoming a solution provider and trusted advisor by integrating products, services, and programs that are aligned with specific customer needs.

IPR **The CARE Research Facility is a major milestone for Optima. What was the strategic thinking behind establishing it?**

AC The primary challenge we faced earlier was validation. Dependence on external facilities often resulted in delays. With CARE, we can conduct faster validations, repeat experiments when required, and integrate AI-enabled monitoring of bird behaviour, including parameters such as water consumption and activity patterns.

IPR **How do research, automation, and digital transformation redefine animal agriculture in India?**

AC Automation and digitalisation are inevitable. Machines excel at repetitive, precision-driven tasks, allowing humans to focus on creativity, analysis, and decision-making. At Optima, digital transformation spans manufacturing, logistics, order processing, invoicing, and customer experience management.

IPR **Feed milling plays a critical role in product quality and profitability. How is Optima strengthening its leadership in this area?**

CVC Optima delivers differentiated, value-driven feed milling solutions. Our advanced applicator technology enables precise, emulsified application of water, oil, and additives, ensuring optimal conditioning and superior feed quality.

IPR **Optima recently launched a proprietary strain, Bacillus velezensis OLS-1101. What makes this development significant?**

AC This strain was discovered through detailed genotyping and demonstrates strong antimicrobial properties, higher expression of antimicrobial peptides, and notable protease activity. These attributes position it as a promising solution for sustainable and responsible poultry production.

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VICTAM Asia 2026 Returns to Bangkok

The Asia Pacific region's leading exhibition for animal feed, health and grain processing technologies, VICTAM Asia 2026, will return to Bangkok from 10th to 12th March, 2026, at the BITEC Exhibition and Convention Center.

Co-located with Health & Nutrition Asia and GRAPAS Asia 2026, the event will present a comprehensive platform spanning the entire feed-to-food value chain, from feed production, rice and flour milling technology, to health and nutrition.

More than 300 global exhibitors and over 9,000 industry professionals are expected to participate, showcasing innovations in sustainable processing, digital automation and precision manufacturing. Highlights will include Environmental & Sustainable Process Technologies; Automation, Digitalisation & Precision and Thermal & Environmental Control.

A key new feature for 2026 will be the introduction of Themed Days, designed to create focused engagement between buyers and suppliers. The programme will feature dedicated sessions on Feed Milling, Grain Handling and Pet & Aqua Feed.

Speaking on the exhibition, Sebas van den Ende, General Manager, Victam International, said "VICTAM Asia 2026 is excited to be in co-location with Health and Nutrition Asia again to host the complete animal nutrition event for the region; it's a movement toward smarter, safer, and more sustainable feed and grain industries. We invite all exhibitors, visitors, and members of the media to join us in Bangkok to explore innovation, connect with global leaders, and help shape the future of animal nutrition and food production in Asia."

The Thai Feed Mill Association will also collaborate with the organisers to host technical seminars on feed safety, energy management and sustainable production practices.

With innovation, knowledge exchange and business development at its core, VICTAM Asia 2026 is poised to become a vital catalyst for the future growth of Asia's animal nutrition and grain processing sectors.

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Feathers of Fortune: Tribal Women of Dindori Build a Rs. 15 Crore Poultry Enterprise

Dr. Anshika Pandey
Executive
Rani Durgawati Murgipalak Sahakari Samiti Maryadit, Dindori

This is a remarkable tale of tribal empowerment, community enterprise, and women-led development in the forests of Madhya Pradesh.

In the tribal heartland of Samnapur and Amarpur blocks in Dindori district—home to the Gond and Baiga communities, where livelihoods once hinged on rainfed farming and forest gathering—a quiet but powerful revolution is underway. At the heart of it is Sonwati Bai of Dungariya village, whose life has been dramatically transformed through backyard poultry farming. And she's not alone. Backed by an all-women cooperative, this movement is rewriting the script of rural prosperity in Madhya Pradesh.

The Birth of a Movement: Rani Durgawati Murgipalak Sahakari Samiti Maryadit

Formed in 2008, the Rani Durgawati Murgipalak Sahakari Samiti Maryadit started small, with just 20 tribal women. Today, it has blossomed into a powerful network of 493 women across 23 villages, building sustainable livelihoods through poultry farming. It proudly bears the name of Gond warrior queen Rani Durgawati—a symbol of strength and self-reliance for tribal women.

What began with modest backyard sheds has now scaled up to a business worth over Rs. 15 crore, establishing this cooperative as a powerhouse of tribal women's entrepreneurship.

The Samiti supports members through:

- Backward Linkage: Supply of day-old chicks, quality feed, veterinary care, and medicines
- Forward Linkage: Assured market linkages through through catering interior rural markets
- Zero-Investment Entry: Members incur no upfront costs; members are shielded from market risk and are remunerated through a performance-based efficiency index that rewards care, productivity and efficiency

Awards & Achievements Corner

- NCDC Award of Merit 2018: Recognised as the Best Womens' Cooperative in Madhya Pradesh
- Listed among India's Top-50 Cooperatives, showcasing national-level recognition
- Best Farmer Producer Organisation Award: A testament to impact, governance, and innovation

These accolades not only mark institutional excellence but highlight the impact of tribal women-led entrepreneurship on the national stage.

The Backbone: MP Women Poultry Producers Company Limited (MPWPCL)

The success of the Dindori-based Samiti is further amplified by MP Women Poultry Producers Company Limited (MPWPCL), a state-level federation that brings together multiple district-level poultry cooperatives.

Currently, 17 other Farmer Producer Organisations (FPOs), apart from RDMS, are part of this federation—together representing over 9,000 women members and achieving a combined remarkable turnover of Rs. 455 crore. Their collective effort has turned poultry farming into one of the most successful women-led livelihood models in the state, demonstrating how tribal women can drive large-scale economic change when given access to resources, markets and solidarity based institutions.

MPWPCL strengthens its member cooperatives through:

- Backward Linkages: Operating its own breeder farm, hatchery, and feed plant, ensuring quality inputs and cost efficiency
- Forward Linkages: Providing expanded market reach across major urban centers and institutional buyers
- Bulk procurement of feed and chicks at lower rates
- Continuous training and quality control for producers
- Professional business management, making grassroots cooperatives competitive, efficient, and scalable

This support system enables local cooperatives like RDMS to run like professionally managed enterprises—sustainable and future-ready.

Sonwati Bai: One of Many Rising Stars

Twelve years ago, Sonwati Bai began her poultry journey with little more than hope. Today, she rears 1,000 broiler birds per batch across six batches annually, earning a net income of Rs.1 lakh per year—all from her village.

With veterinary support, quality inputs, and rigorous training provided by the cooperative, Sonwati has evolved into a model entrepreneur, admired for her precision and care.

"I never imagined earning this much while staying in my village. Everything is handled by the Samiti—I just give my birds love and discipline," she shares.

But Sonwati is not alone. Her success has become a spark for many others in the community. Today, dozens of women across 23 villages are following in her footsteps—rearing birds with increasing professionalism and earning steady, dignified incomes.

Many women— once confined to traditional household roles—are now handling full production cycles, earning Rs 60,000 to Rs 90,000 per year, and contributing actively to household decisions and children's education. In some families, women poultry producers have even become the primary breadwinners, challenging age-old norms and earning newfound respect within their homes and communities.

The cooperative's support system has made this livelihood not only low-risk and accessible but also a scalable income opportunity for tribal women who had limited means earlier.

From isolated efforts to a growing wave of success stories, the Rani Durgawati Samiti is nurturing a new generation of rural women entrepreneurs, empowered by knowledge, income, and a shared vision for change.

A Movement Beyond Economics

The Rani Durgawati Cooperative is not just a rural business—it's a vehicle for social transformation. It prevents seasonal migration by offering local employment and strengthening women's voices in family and community decisions. It enhances nutrition & financial security and inspires confidence & leadership among women. As a platform, it now fosters mentorship between senior and new members, creating a cycle of shared growth.

A Future Fuelled by Feathers

What started in a remote forest district is now a model for women-led rural prosperity, powered by feathers and fierce determination. With continued support from MPWPCL, a growing cadre of producers like Sonwati Bai, and national recognition for its achievements, the Rani Durgawati Cooperative is shaping a bold new narrative—one poultry shed at a time.

Samnapur and Amarpur, once known for isolation and underdevelopment, now shine as beacons of grassroots innovation, community enterprise, and women-powered change.

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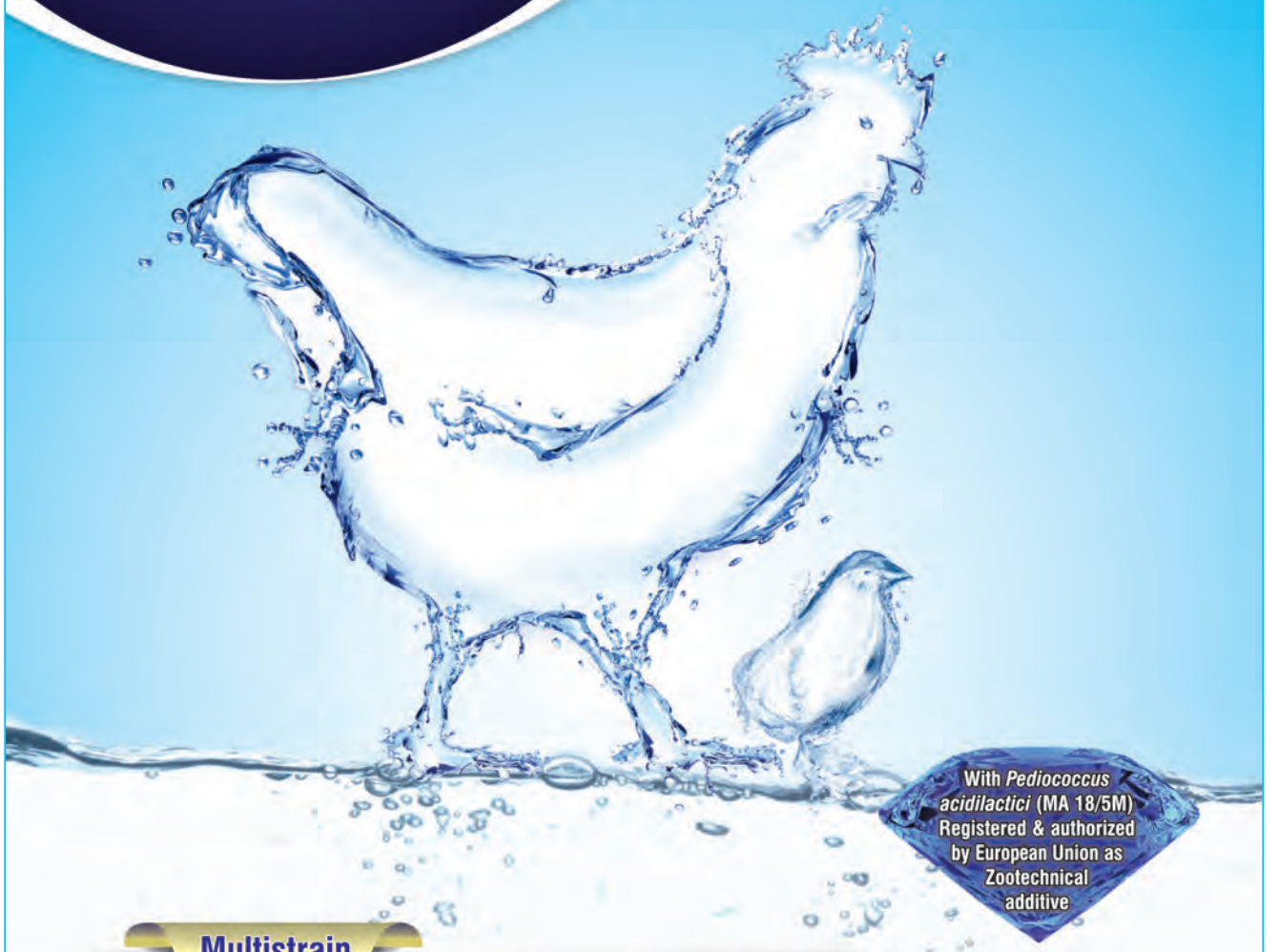

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INTERNATIONAL

VIV MEA 2025 Reinforces Leadership in Middle East & Africa Feed-to-Food Sector

VIV MEA 2025 once again established itself as the leading B2B platform for the feed-to-food industry in the Middle East and Africa, attracting 10,830 professional visitors and 144 industry leaders from more than 110 countries. Held from 25th to 27th November at ADNEC, Abu Dhabi, the exhibition hosted 505 exhibitors from 49 countries, presenting innovations across animal protein production, animal health, breeding and hatching, feed and crop technologies, food engineering, aquaculture and allied sectors.




Speaking about the expo, Jeroen van Hooff, President & CEO of Royal Dutch Jaarbeurs and VNU Group, said "VIV MEA is a vital engine driving the conversation around global food security. The immense participation this year, together with the focus on sustainable solutions and smart technology, clearly demonstrates the commitment of the region to overcome challenges. We are proud to be an enabling platform for a resilient, self-sufficient, and technologically advanced food system for the next generation. The UAE's strategic vision and investment in food security innovation make it an indispensable partner in shaping the future of agriculture across the region and beyond. The energy from this edition carries us forward with great optimism towards our next gathering."

The event offered a dynamic marketplace for networking, partnerships and business growth. More than 30 conference sessions with 130 speakers, Cities Leading Food Production Roundtables, and the Poultry Marketing Round Table focused on governance, technology, water management and regenerative agriculture.

Strong participation from South Asia, especially India, underscored the show's growing relevance, with several Indian companies showcasing their offerings. The event also featured dedicated international pavilions from the USA, France and Korea. VIV MEA concluded with the announcement of VIV Select India, to be held in New Delhi from 22nd to 24th April, 2026.

NATIONAL

AMR Stewardship Drive 2025

The CII FACE–INFAH AMR Stewardship Drive 2025 is a national initiative aimed at strengthening India's response to antimicrobial resistance (AMR) across livestock and aquaculture systems. Following successful sessions in Bengaluru, Nagpur, and Patna, the concluding session was held on 20th November in New Delhi, drawing participation from veterinarians, researchers, academia, startups, policymakers, and industry leaders.

Dr. Shirish Nigam, Chairman of the CII-INFAH Subcommittee on Public Policy, opened the session by emphasising the Drive's role in promoting responsible antimicrobial use, innovation, and resilience across animal health systems. Chief Guest, Prof. (Dr.) S. P. Singh Baghel, Minister of State for Fisheries, Animal Husbandry & Dairying, Government of India highlighted the urgent need for stewardship, improved animal health systems, and widespread awareness. He stressed that a One World, One Health approach, integrating veterinary, human, and environmental perspectives, is essential for sustainable AMR mitigation.

Prof. (Dr.) P. K. Shukla contextualised the program by noting the absence of new antibiotic molecules over the past two decades, urging participants to champion prudent antimicrobial practices and strengthen awareness at all levels.

Two significant reports were released: CII FACE's Industry-led AMR Stewardship in Animal Agriculture, offering actionable recommendations for dairy, poultry, and aquaculture sectors; and INFAH's Indian Animal Healthcare Antimicrobial Usage 2024, presenting national, category-wise AMU estimates.

A technical session on "Ground-Level Strategies for AMR Mitigation" highlighted practical solutions including ethnoveterinary medicine, herbal alternatives, probiotics, vaccines, rapid diagnostics, surveillance integration, and precision nutrition. The event concluded with a reaffirmation of CII FACE's commitment to advancing a collaborative, One Health-aligned national movement for AMR stewardship.

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CEO,
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Scan the QR codes and step into candid conversations with the minds driving change across the industry

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Ambati Sudhakar Reddy
Chairman & Managing Director,
Bionnar Health Care Pvt. Ltd.

ecolex ANIMAL NUTRITION

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Global Commercial Director,
Ecolex Animal Nutrition

NEOTLE Born With Wings

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Mani
National Sales Manager,
Neotle Global Private Limited

VETNOVA Redefining Animal Health & Nutrition

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Subrata Mukherjee
CEO (Vetnova-Animal Health Division),
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Director- Strategic Marketing,
Nutreco South Asia

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PoultryMon Smart Poultry Solutions

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Srinivas Chindam
Founder & CEO,
PoultryMon MLIT

ABES

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Prem Kansal
Founder & Managing Director,
ABES Health and Nutrition India Pvt. Ltd.

Second Bhuvana–Pintaluba Technical Seminar in Raipur

Bhuvana Nutribio Sciences, India and Andres Pintaluba S.A. (APSA), Spain, successfully organised the second technical seminar under the Bhuvana–Pintaluba Tech Series on 15th December at Raipur. The event marked another significant milestone in the partners' shared mission to deliver science-led, practical solutions for the poultry industry.

The programme opened with a welcome address by Dr. Nikhil Adagale, General Manager, Bhuvana, who reiterated the company's commitment to advancing poultry health through innovation, research and technical excellence.

The keynote session was delivered by Dr. Rais Rajpura, Assistant Professor, Department of Animal Science, Anand Agricultural University, Gujarat, and an internationally experienced technical advisor. His presentation on "An Integrated Approach to Gut and Respiratory Health in Poultry" provided valuable scientific insights and actionable strategies.

Subsequently, Dr. Jyoti Kumar Mainali, Area Manager – Asia, Andres Pintaluba S.A. (APSA), presented the company's corporate profile, highlighting the European-origin Tiamulin 10% (APSAMIX TIAMULIN 10%) and other R&D-driven solutions such as APSAVIT OVOSMART, APSA MIOCHEM 20 and APSA AMINOVIT.

Dr. Adagale also shared Bhuvana's growth journey, underlining the company's expertise in gut health management and introducing its innovative tablet-based solution GutPROP WS, designed to address critical poultry health challenges.

The seminar witnessed enthusiastic participation from leading poultry and protein producers from Chhattisgarh and Odisha.

IPR Knowledge Review, Guwahati Highlights Growth Pathways for Layer Farming in North East India

IPR Knowledge Review's latest edition was organised on 20th December at Guwahati, the heart of vibrant North East India. The seminar had a clear mission - to chart a sustainable and profitable future for layer farming in one of the country's most promising yet under-leveraged regions.

The theme for this edition, "Building a Profitable Layer Farming Ecosystem in North East India," resonated deeply with the realities on the ground. As egg consumption continues its upward trajectory across the region, the opportunity for local production has never been stronger. Yet, the sector grapples with persistent challenges ranging from high input costs and infrastructural bottlenecks to gaps in biosecurity and organised market linkages.

Delivering the Keynote Address, Prof. (Dr.) P. K. Shukla, President, Indian Poultry Science Association & Professor and Head, Dept. of Poultry Science, College of Veterinary Science and Animal Husbandry, DUVASU, Mathura emphasised the unique socio-cultural, agro-ecological, and consumption characteristics of North East India, noting that poultry presents a significant opportunity to support livelihoods, nutrition security, and inclusive economic growth in the region. Unlike other parts of the country, poultry consumption patterns in the North East are uniform and culturally well accepted, creating strong and sustained demand. Despite this, the region remains a net importer of eggs and poultry meat, highlighting untapped potential for local producers. Poultry development aligns closely with national priorities, particularly the four pillars identified by the Prime Minister—women, youth, farmers, and the poor, making it a powerful tool for inclusive growth. The region's production systems differ from conventional classifications, with backyard poultry focused on subsistence and supplemental income, semi-commercial systems extending up to 1,000 birds, and commercial operations beginning at around 10,000 birds, he added. Prof. (Dr.) Shukla further said that growth in the North East, however, is constrained by geographical isolation,

poor connectivity, fragmented markets, high logistics costs, lack of local feed ingredients, limited hatchery infrastructure, weak cold-chain facilities, inadequate extension services, biosecurity risks, and restricted access to credit and insurance. Structural and implementation gaps in government schemes, often due to design–reality mismatches, poor coordination, and delivery bottlenecks further limit impact.

The distinguished Guests of Honour at the seminar included Ambati Sudhakar Reddy, Chairman & Managing Director, Bionnar Health Care Pvt. Ltd.; Manoj Saikia, Chairman, Assam Livestock and Poultry Corporation; Dr. Probodh Borah, Director of Research (Veterinary), Assam Agricultural University; Dr. B. N. Saikia, Dean, Faculty of Veterinary Science, Assam Agricultural University.

The event brought together an eminent panel of speakers:

Dr. Niranjan Kalita, Vice Chancellor, Assam Veterinary and Fishery University, Delivered by Dr. J. D. Mahanta, Professor & Head and Incharge Academic Cell (PG), Dept. of Poultry Science, College of Veterinary Science, Guwahati	Sustainable Layer Farming in the North East – Nutrition, Breed and Climate Adoption Strategies
Prof. (Dr.) P.K. Shukla, President, Indian Poultry Science Assocition & Professor and Head, Dept. of Poultry Science, College of Veterinary Science and Animal Husbandry, DUVASU, Mathura	Enhancing Production Efficiency - Innovations in Feed, Flock and Management
Dr. Vidyasagar Punja, General Manager, VH Group	Layer Farming Dynamics - North East
Dr. Pankaj Deka, Asst. Professor cum Virologist, Regional Research Centre, ICAR-AICRP on FMD, Dept. of Microbiology, College of Veterinary Science, Assam Agricultural University, Guwahati	Strengthening Poultry Health Security in North East India: Strategic Policy Priorities for Tackling Emerging and Endemic Disease Threats
Dr. Kamna Barkataki, ARO, Dept of Animal Husbadry, Govt of Assam	Policy, Finance and Biosecurity - Resilient Layer Poultry Sector in the North East

Dr. Rijusmita Sarma Deka, Sr. Scientist and Head, Krishi Vigyan Kendra, Morigaon, Assam Agricultural University moderated an extremely engaging panel discussion featuring the speakers, post the presentations.

The Guwahati edition of IPR Knowledge Review, supported by Poultry Development Forum, Assam, was not just a meeting of minds, but a call to action—an invitation to reimagine the North East as a self-reliant, resilient and economically vibrant egg production hub through collaboration, technology adoption and long-term capacity building

Alltech Hosts South Asia Poultry Nutrition Summit 2025

Alltech hosted its South Asia Poultry Nutrition Summit 2025 from 16th to 18th December at Colombo, Sri Lanka. The three-day event, held under the theme "Smart Nutrition for Profitable and Sustainable Poultry Production," brought together more than 85 senior poultry professionals from across South Asia, including nutritionists, feed millers, integrators and industry leaders.

With poultry nutrition rapidly evolving beyond basic performance metrics, the summit focused on a holistic approach integrating bird health, production efficiency, economic sustainability, food safety and welfare. Delegates discussed the growing challenges of volatile raw material prices, rising production costs and supply-chain disruptions, underlining the need for data-driven and science-backed nutritional strategies.

The technical agenda covered key industry priorities such as future poultry trends, feed-mill-to-farm efficiency, gut health management, precision feeding, feed formulation, meat yield optimisation and sustainability-led nutrition models.

A strong line-up of speakers added depth to the discussions. Dr. Rick Kleyn, global poultry nutrition consultant, shared insights on aligning modern nutrition strategies with current market realities. Dr. Roy Brister, Strategic Poultry Advisor at Alltech, highlighted the role of precision nutrition and analytics in driving flock performance and profitability. Dilsahn Weviwa, Managing Director of Pussalla Meat Producers Pvt. Ltd., provided a comprehensive overview of the Sri Lankan poultry sector, outlining key opportunities and prevailing challenges.

Commenting on the event, Dr. Aman Sayed, Managing Director, Alltech India and Regional Director, South Asia, said,

"The South Asia Poultry Nutrition Summit 2025 was designed to empower poultry professionals with practical knowledge and strategic insights needed to improve efficiency, resilience and sustainability. Collaboration and continuous learning are essential as the industry navigates an increasingly complex market environment."

The South Asia Poultry Nutrition Summit 2025 reinforced Alltech's commitment to advancing knowledge-led growth and fostering regional collaboration across the poultry value chain.

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Nanovet Nutrition Forges Strategic Alliance with nu.ance Biotechnology

Nanovet Nutrition Pvt. Ltd., one of India's fastest-growing, innovation-driven animal nutrition companies, recently announced a strategic collaboration with nu.ance Biotechnology, Switzerland, a global leader in science-based mycotoxin management solutions. This partnership marks a key milestone in Nanovet's mission to introduce globally validated, high-performance nutritional technologies to the Indian poultry industry.

Under this alliance, Nanovet Nutrition has launched two advanced toxin-management solutions in India – Antox Plus and Antox Precise.

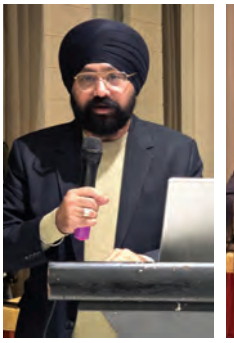
- Antox Plus offers comprehensive protection by targeting Mycotoxins, Endotoxins, and Chemical toxins, addressing the broader spectrum of feed-borne challenges.
- Antox Precise is a highly selective solution dedicated exclusively to mycotoxin management, ensuring precise binding without compromising essential nutrients.

Nanovet Nutrition successfully hosted a series of launch programmes across three key poultry hubs in North India – Karnal, Pathankot and Lucknow. The events drew strong participation from poultry farmers, integrators, veterinarians, consultants, distributors, and other industry stakeholders.

The launch events were conducted by a dedicated joint team from Nanovet Nutrition and nu.ance Biotechnology comprising:

Nanovet Nutrition Team

- Dr. Deepak Singh – Technical Director
- Dr. Karthiga Kesavan– Product Manager
- Deepak Solanki- Regional Sales Manager-North
- Dr. Anirudh Ahlawat- Technical Service Manager- North
- Dedicated regional sales team members



nu.ance Biotechnology Team

- Dr. David Harrington – Chief Product Officer
- J. S. Uppal – Business Director, South Asia

Antox Plus and Antox Precise are formulated using advanced adsorption and biotransformation technologies, developed through extensive global research and validated under diverse field conditions.

Key benefits include:

- Broad-spectrum Mycotoxins, Endotoxins and Chemical Toxins binder
- Improved gut health and nutrient utilisation
- Enhanced flock performance and consistency
- Reduced economic losses linked to mycotoxins

Announcement

HELLO PROTEIN: Strengthening India's Protein Security Through Poultry

As India works towards improved nutrition security and global competitiveness, the issue of protein deficiency remains a pressing national concern. Addressing this gap is HELLO PROTEIN, a nationwide public awareness initiative conceptualised by industry veteran O. P. Singh, aimed at reshaping how India understands, values, and consumes protein.

For the poultry sector, India's most efficient and accessible source of high-quality animal protein, this initiative presents both an opportunity and a responsibility. HELLO PROTEIN seeks to build awareness through education rather than advocacy, simplifying nutrition science, dispelling myths around protein and poultry consumption, and encouraging informed, everyday dietary choices.

The initiative also aims to strengthen the industry's collective voice by aligning producers, veterinarians, nutritionists, processors, and marketers around a common goal: making protein a conscious, consistent priority in the Indian diet. Poultry, with its affordability, scalability, and nutritional density, is central to this conversation.

HELLO PROTEIN invites stakeholders across the poultry value chain to contribute ideas, insights, and outreach strategies that can help accelerate protein awareness at the grassroots and consumer levels. Ideas and suggestions may be shared at helloproteins25@gmail.com

Dr. G. Gopal Reddy Honoured

Dr. G. Gopal Reddy, BVSc, MBA, Poultry Consultant and Soft Skills Training Expert (P3), has been honoured with the Dr. B.V. Rao Poultry Entrepreneur – Global Icon Award 2025 for his outstanding professional contributions to the Indian poultry sector.

The award recognises Dr. Reddy's sustained efforts in strengthening human capital within the poultry industry through leadership development, capacity building, and people-centric training initiatives. His work has played a meaningful role in enhancing professionalism and managerial effectiveness across various segments of the poultry value chain.

The honour was conferred on the occasion of World Egg Day, 10th October 2025, celebrating excellence and impact in poultry entrepreneurship and allied services.

Indian Poultry Review congratulates Dr. G. Gopal Reddy on this prestigious recognition and wishes him continued success in his endeavours.

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