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Poultry Fortune

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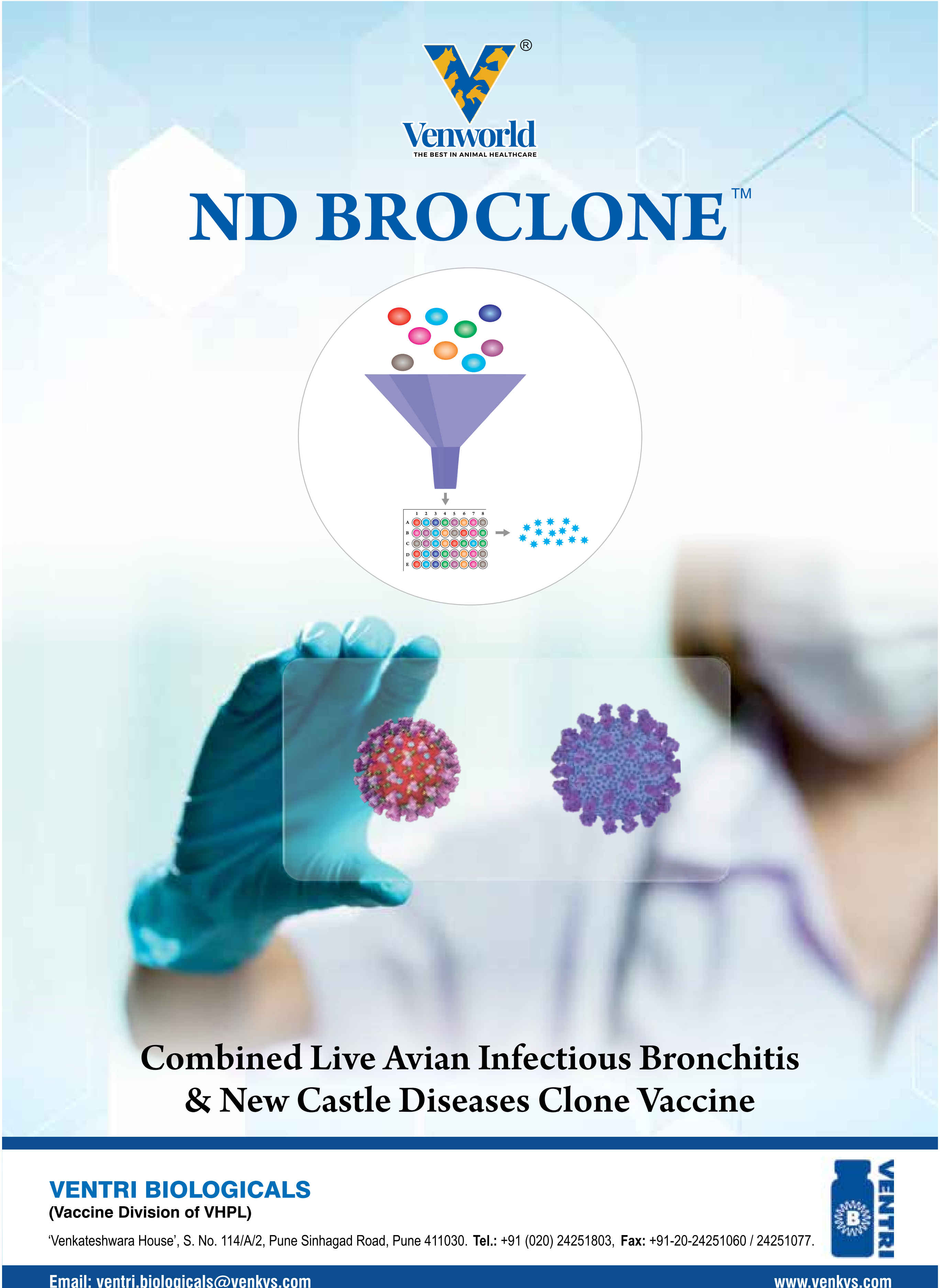
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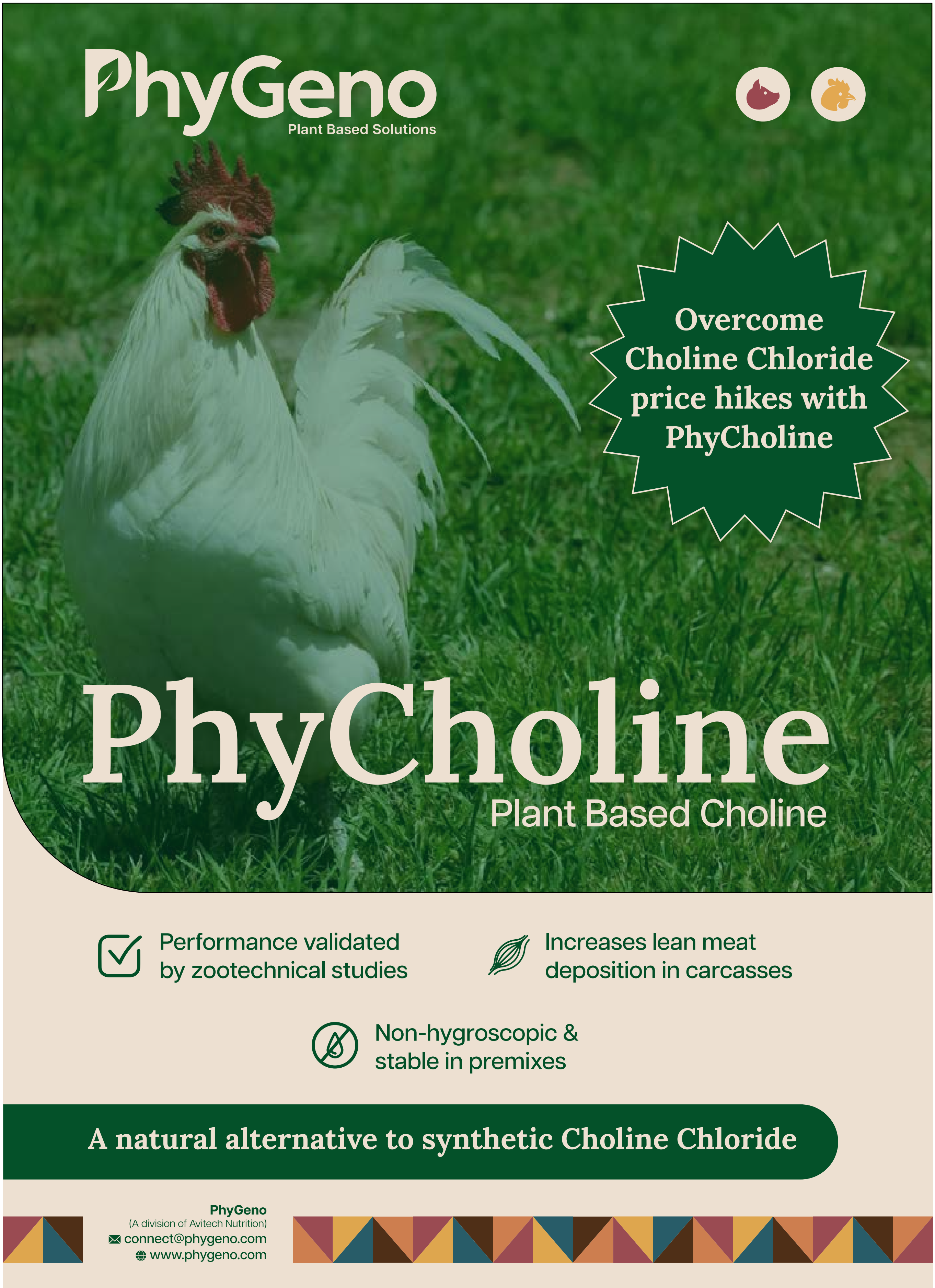
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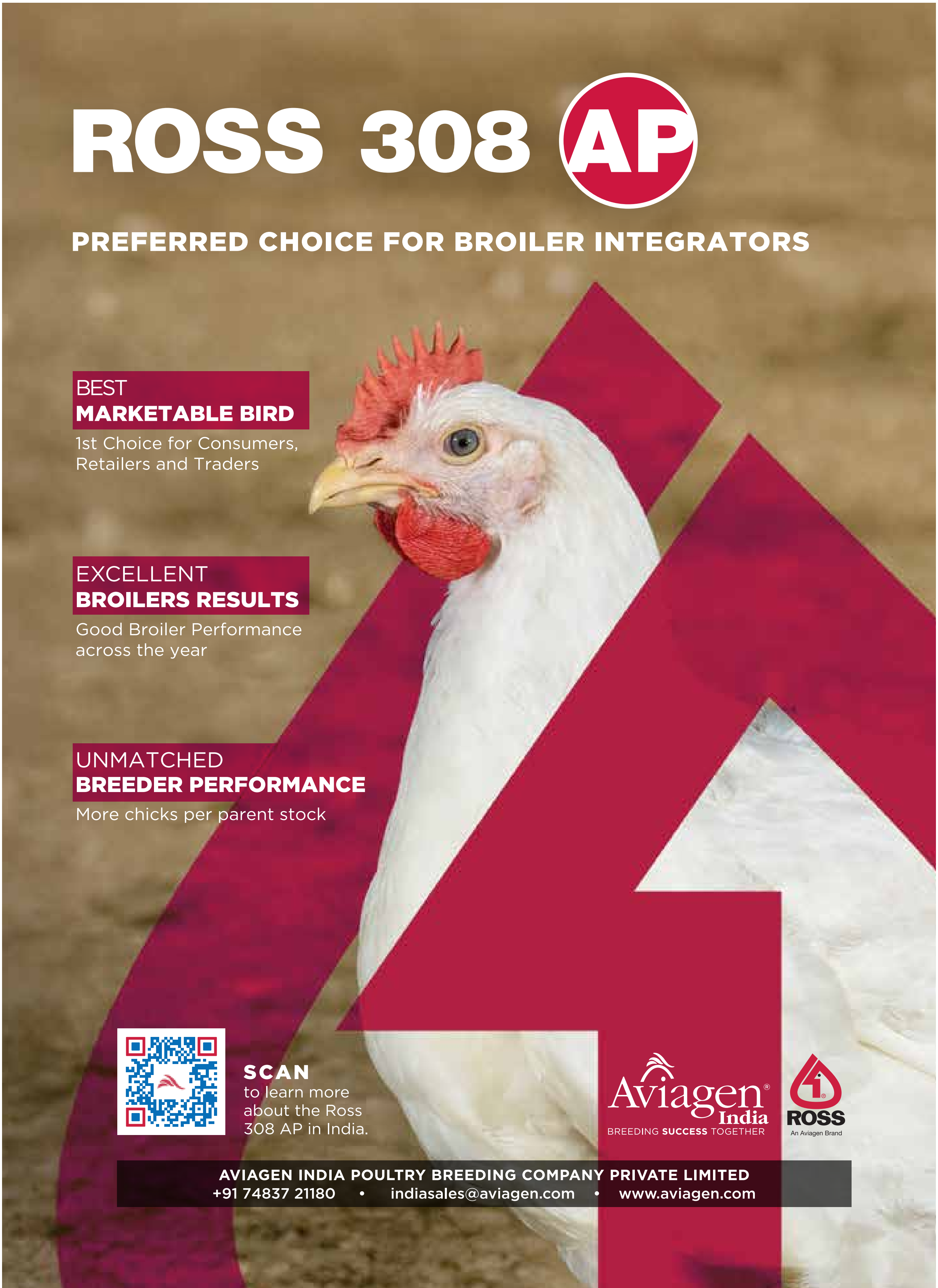
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BEST ACHIEVERS
NOVEMBER-2025

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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M. A. Nazeer

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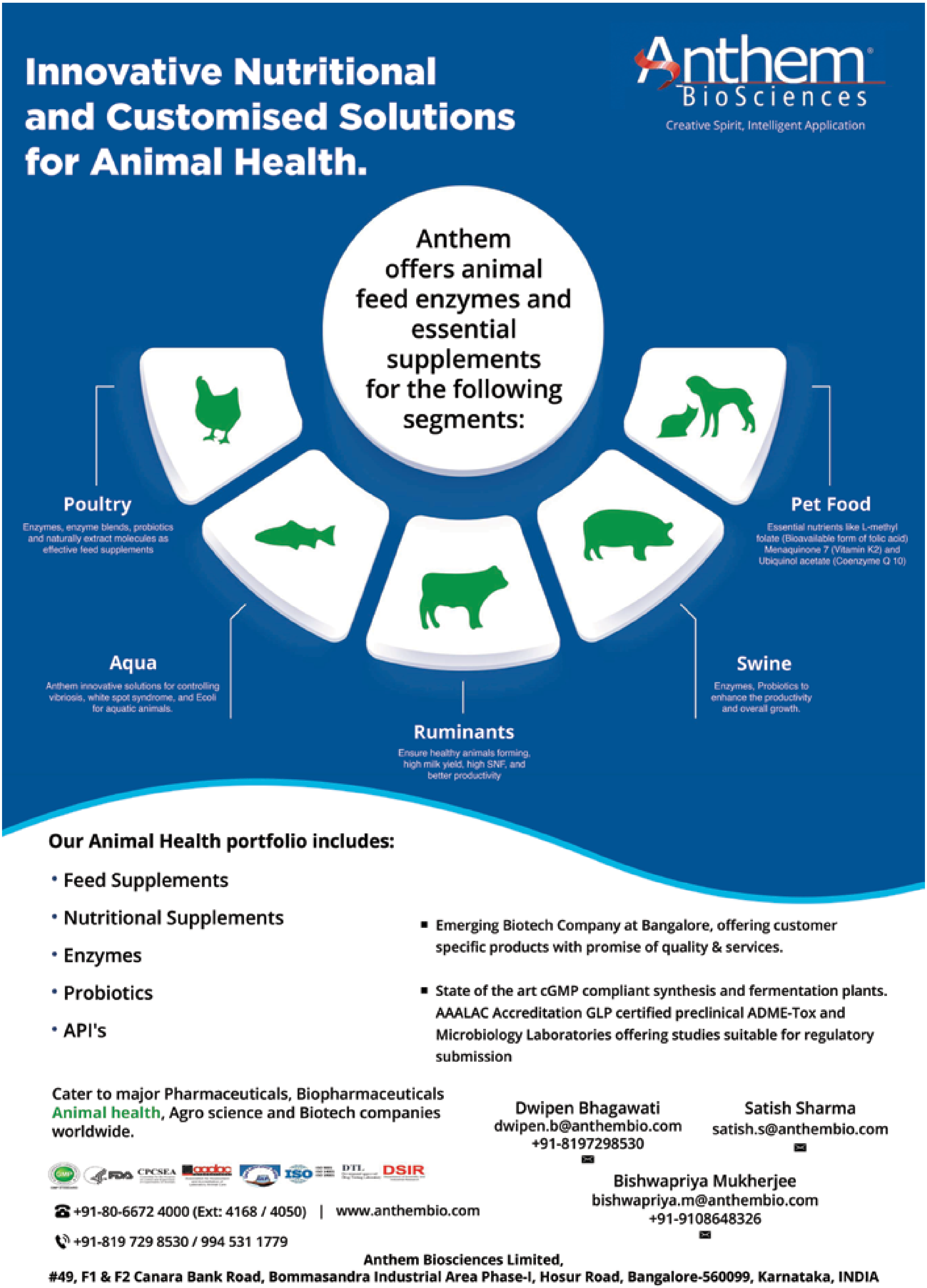

US Egg farmers commit $1M to put eggs at center of school breakfast

In today's poultry industry, biosecurity is no longer an option - it is a necessity. With increasing disease pressure, intensive production systems, and frequent human and material movement across farms, even a minor lapse in biosecurity can lead to significant health and economic losses.

Dear Readers,

The May 2026 issue of Poultry Fortune is in your hands. In the news section you may find news about...

The American Egg Board (AEB), on behalf of America's egg farmers, announced a $1 million investment in innovation, research and partnerships that expand access to egg-based breakfast options in schools nationwide. The announcement comes as the new dietary guidelines place eggs at the top of the protein pyramid and the Food and Drug Administration's healthy food designation confirms what farmers and nutritionists have long known: eggs are an inherently healthy food that supports overall health and lifelong wellbeing. "America's egg farmers are proud of the eggs we produce, and we are grateful to Secretary Rollins and Secretary Kennedy for their support of real food and America's farmers," said Andrew Seger, Chairman of the American Egg Board and chief financial officer of Wabash Valley Foods. "We want to support our children in having a protein-packed breakfast that fuels them all day and promotes their brain development. Eggs are the solution — and we are putting our money where our mission is."

Petersime launches UniStreamer: Intelligent incubators engineered for chick uniformity and full traceability Petersime announces the launch of UniStreamer, its next-generation range of single-stage incubators. Designed to meet the poultry industry's rising demand for product consistency, transparency and performance, UniStreamer combines unmatched chick uniformity with end-to-end traceability in one intelligent, future-ready solution. Retailers are raising the bar: they demand consistent volumes, perfectly sized fillets and table eggs that meet ever stricter quality criteria. At the same time, pressure is mounting for full transparency on product origin and processing. As a world leader in incubation, Petersime has responded with a new generation of intelligent single-stage incubators – UniStreamer – engineered to meet today's market demands with confidence.

Venworld in association with Special Nutrients (USA) leads industry dialogue on Multiple toxin Control with West and Central India Technical Seminar Series. Venky's India Limited's Venworld team known for its innovation and scientific excellence, hosted a series of technical seminars on "Challenges in Multiple Toxin Control in Poultry" across Nashik, Pune, and Bhopal from April 6 - 9. Bringing together poultry consultants, veterinarians, nutritionists, and farmers, the seminars provided a strong platform to address the growing threat of mycotoxins and chemical toxins and share practical, science-based solutions for the poultry industry. At the Pune seminar, Mr Deepak Khosla, GM - Sales & Marketing emphasized the urgency of tackling mycotoxin challenges and reaffirmed Venworld's commitment to delivering research-driven solutions that safeguard animal health and productivity.

In the Articles section, **Advanced Summer Stress Management in Broilers** authored by Dr Sunil Nadgauda, Dr Sanjay Deshpandey, Dr Siddhi Velhal says that summer poses a major challenge to broiler production due to elevated environmental temperatures. Heat stress during this period can reduce feed intake, slow growth, suppress immune function, and compromise overall flock health. If not managed effectively, it may lead to poor flock uniformity, increased mortality, reduced productivity, and substantial economic losses. A comprehensive, stage-wise management program is therefore essential to sustain performance during hot weather. Brooding Management (0–14 Days) The brooding phase is the foundation of broiler performance. Strong brooding management

Contd on next page

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Our Mission

Poultry Fortune will strive to be the reliable source of information to poultry industry in India.

PF will give its opinion and suggest the industry what is needed in the interest of the stakeholders of the industry.

PF will strive to be The Forum to the Stakeholders of the industry for development and self-regulation.

PF will recognize the efforts and contribution of individuals, institutions and organizations for the development of poultry industry in the country through annual Awards presentation.

PF will strive to maintain quality and standards at all times.

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supports early chick vitality, better body weight gain, and improved feed efficiency. In summer, chicks are highly sensitive to temperature fluctuations. Excess heat during the first week can quickly cause dehydration, leading to weak chicks, uneven growth, and long-term uniformity issues. Maintaining optimal brooding temperature and comfort is critical. Temperature control: Maintain target brooding temperatures and monitor chick behavior for comfort cues (even distribution, active movement, steady feeding and drinking). Ventilation from day one: Ensure adequate air exchange to remove heat, moisture, and ammonia - without creating direct drafts on chicks. Extra floor space: Compared to cooler seasons, providing slightly more space helps reduce heat buildup and improves chick comfort. Chick equipment only: Use chick feeders and drinkers to ensure easy, continuous access to feed and water. Controlled brooding systems: Electric or gas brooders provide more consistent heat distribution and better regulation than uncontrolled heating methods.

Another Article titled, **The protein scaling in India from 1989 and efforts to combat malnutrition and school enrolments in the southern states of India** authored by Chethan Lokesh, Geetha Madhuri. K, Dr K. Ravi Kumar discussed that India's per capita egg consumption increased from 20 eggs / year in 1989 to 90 eggs / year in 2024, reflecting major improvements in protein access. Southern states like Tamil Nadu and Andhra Pradesh significantly improved child nutrition and school enrollment through egg-based welfare programs. Eggs provide a low-cost, complete protein with essential nutrients critical for child growth, brain development, and immunity. Despite progress, India still falls short of the recommended 180 eggs/year, highlighting a major gap in nutrition policy and implementation. A child who wakes up every morning, walks to school with an empty stomach, and sits in a classroom trying to concentrate but cannot, because her body and brain do not have enough food. This is not a story from the distant past. For millions of children across India, this was and for some, still is an everyday reality. Protein is not just a word on a nutrition label. It is the building block of muscles, the fuel for the brain, the engine behind a growing child's body. Without enough protein in the diet, children grow slowly, fall sick often, and struggle to learn. Adults too become less productive. Entire communities can be held back by something as preventable as protein deficiency. India has been fighting this battle for decades. Since the late 1980s, there has been a gradual but significant scaling up of protein availability across the country. The southern states Tamil Nadu, Kerala, Karnataka, Andhra Pradesh, Telangana, and the Union Territory of Puducherry have been at the forefront of many of these efforts. And at the very centre of this nutrition revolution stands one of the most remarkable, affordable, and scientifically validated foods on earth: the egg.

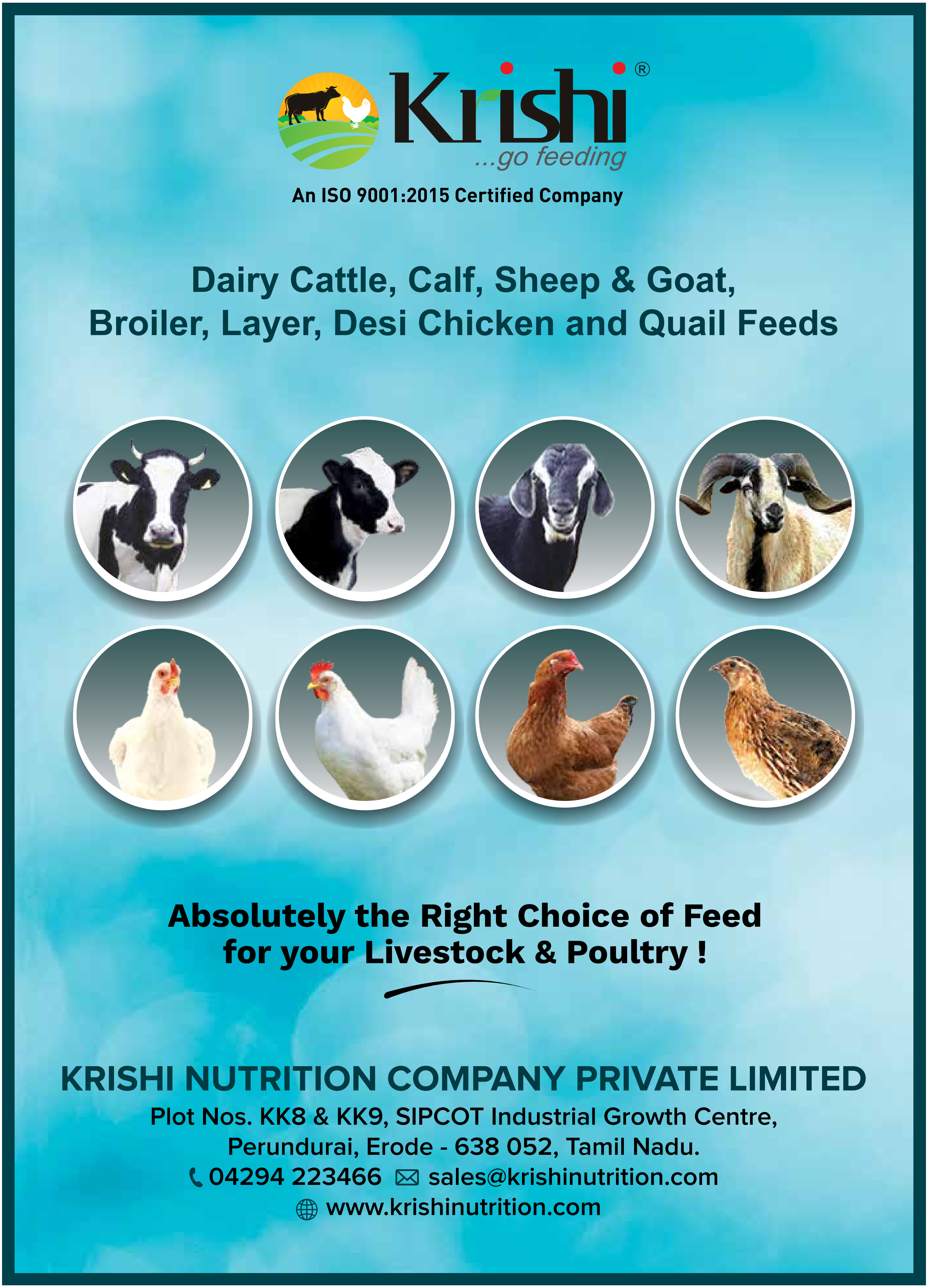
Another Article titled, **Biosecurity Measures – Standard Operating Procedure (SOP)** authored by Prabakar Ramamoorthy and R. Chanthirasekaran said that in today's poultry industry, biosecurity is no longer an option - it is a necessity. With increasing disease pressure, intensive production systems, and frequent human and material movement across farms, even a minor lapse in biosecurity can lead to significant health and economic losses. A well structured biosecurity program acts as the first line of defence, protecting flocks from infectious agents while ensuring sustainable productivity and animal welfare. This Standard Operating Procedure (SOP) outlines comprehensive on farm biosecurity measures designed to minimize disease risks at every critical control point - from farm entry and visitor management to shed hygiene, waste disposal, and flock health monitoring. By consistently implementing these SOPs, poultry producers can strengthen disease prevention, enhance flock performance, and maintain long term operational reliability. The key biosecurity measures to be followed at the farm are outlined below.

Another Article titled, **Postbiotics: A Promising Alternative to Antibiotic Growth Promoters in Poultry** authored by Preethi, V., discussed that the increasing incidence of antimicrobial resistance in microbial populations has intensified research into natural alternatives to antibiotics for both human and animal health. Among these alternatives, postbiotics have emerged as a promising option. Postbiotics are preparations of inactivated microorganisms and their bioactive components that confer health benefits to the host. Unlike probiotics, they do not contain live microorganisms, making them more stable during feed processing and storage. Postbiotics have been shown to possess antimicrobial, antioxidant, anti-inflammatory, and immunomodulatory properties. In poultry production, they contribute to improved gut health, enhanced immune response, better growth performance, and reduced mortality. This article highlights the definition, sources, mechanisms of action, and potential benefits of postbiotics in poultry nutrition as a safe and sustainable alternative to antibiotic growth promoters. Traditionally, probiotics have been used in poultry nutrition to promote gut health and improve performance. For many years, the viability of microorganisms was considered essential for probiotics to exert beneficial effects. However, recent studies indicate that even non-viable microbial cells, their structural components, and their metabolites can provide health benefits. To address this concept, several terms such as non-viable probiotics, heat-killed probiotics, paraprobiotics, and postbiotics have been introduced. In 2021, the International Scientific Association of Probiotics and Prebiotics (ISAPP) defined postbiotics as: "A preparation of inanimate microorganisms and / or their components that confers a health benefit on the host." This definition provides clarity for researchers, industry professionals, and regulatory authorities regarding the use and potential benefits of postbiotics in animal nutrition.

Another Article titled, **Physiological Adaptation to Heat Stress: Targeting Metabolic and Cellular Needs in Poultry** by Neotle Global Pvt Ltd says that heat stress in poultry extends beyond an environmental challenge, characterised as a complex physiological disruption involving metabolic imbalance, oxidative stress, and organ dysfunction. While external cooling strategies help alleviate thermal load, they do not fully address the internal biological strain experienced by the bird. Therefore, effective mitigation must align with the bird's physiological needs by supporting cellular homeostasis, metabolic efficiency, antioxidant balance, and organ functionality. These internal disruptions highlight that effective heat stress management must go beyond environmental control and directly address the bird's physiological and cellular requirements. What Birds Actually Need Under Heat Stress.

Readers are invited to send their views and comments on the news, special feature and articles published in the magazine which would be published under "Readers Column" in the magazine. Time to time, we shall try to update you on various aspects of Poultry sector. Keep reading the magazine Poultry Fortune regularly and update yourself. Wish you all fruitful results in your efforts.

M.A.Nazeer
Editor & Publisher
Poultry Fortune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US egg farmers commit $1M to put eggs at center of school breakfast

American Egg Board joins USDA Secretary Rollins, HHS Secretary Kennedy and White House Senior Advisor Calley Means to advance protein for America's children. Nutrients in the egg are far superior to all other foods

From Left: U.S. Secretary of Health and Human Services Robert F. Kennedy Jr.; U.S. Secretary of Agriculture Brooke Rollins; White House Senior Advisor Calley Means; and American Egg Board chairman and Indiana egg farmer Andrew Seger, Wabash Valley, at a press event announcing America's egg farmers pledged $1 million toward innovation, research, and partnerships to expand access to egg-based options in schools.

April 2, 2026: American Egg Board

In the days ahead of Easter, U.S. Secretary of Agriculture Brooke Rollins gathered senior federal leaders — including U.S. Secretary of Health and Human Services Robert F. Kennedy Jr. and White House Senior Advisor Calley Means — as well as agricultural stakeholders at the U.S. Department of Agriculture to discuss the critical role eggs play in feeding America's children a nutritious breakfast.

The American Egg Board (AEB), on behalf of America's egg farmers, announced a $1 million investment in innovation, research and partnerships that expand access to egg-based breakfast options in schools nationwide.

The announcement comes as the new dietary guidelines place eggs at the top of the protein pyramid and the Food and Drug Administration's healthy food designation confirms what farmers and nutritionists have long known: eggs are an inherently healthy food that supports overall health and lifelong wellbeing.

"America's egg farmers are proud of the eggs we produce, and we are grateful to Secretary Rollins and Secretary Kennedy for their support of real food and America's farmers," said Andrew Seger, chairman of the American Egg Board and chief financial officer of Wabash Valley Foods. "We want to support our children in having a protein-packed breakfast that fuels them all day and promotes their brain development. Eggs are the solution — and we are putting our money where our mission is."

"This is a perfect opportunity to highlight what an incredible source of protein eggs are for American families, especially as we're rewriting what it means to eat real food and make America healthy again," said Rollins. "Eggs are as real as food gets — farm-fresh, completely natural, minimally processed and a source of eight essential nutrients. In the new dietary guidelines, eggs are listed first among the recommended proteins, and that's a big deal."

"We have flipped the food pyramid and eggs are up top," said Kennedy. "Eggs are a wonderful, clean source of protein. They help kids with focus, brain development and eye health, and two eggs are cheaper than the donut kids get in schools. This is a wonderful source of American-made protein for the American table and we are very, very proud to be part of this effort."

"With the food pyramid, we started asking common-sense questions like, 'Can we get more high-protein, whole foods into government procurement programs such as school lunches and military meals?'" said Means. "Right now, it's true that children are not getting whole-food, high-protein breakfasts. Hard-boiled eggs and innovations like egg bites can be at the same price or lower than the food we're currently serving our children."

The $1 million investment will fund a comprehensive effort to make eggs more accessible, convenient and affordable for school meal programs across the country. AEB is developing new recipes, testing how schools can adapt existing cooking equipment to prepare eggs, partnering with school districts to execute egg-based

breakfast pilot programs, and developing new affordable egg products specifically designed for school kitchens through its Eggcelerator Lab innovation center.

"School districts need affordable, efficient and easy-to-implement breakfast options to feed their growing populations, and eggs deliver on every count," said Emily Metz, president and CEO of the American Egg Board. "This $1 million commitment is about unlocking new ideas, new partnerships and new pathways to ensure more children can start their day with the high-quality protein they need. The new dietary guidelines say it best: eat real food. And eggs from America's farmers are as real as it gets."

America's egg farmers deliver for families facing hunger

The event also celebrated the success of a nationwide egg donation drive led by America's egg farmers through AEB in partnership with HATCH. In just weeks, the initiative delivered more than 9.7 million eggs to food banks nationwide, expanding access to high-quality protein for families facing food insecurity.

"Eggs are one of the most requested and most impactful foods we can provide," said Metz. "This effort shows what's possible when farmers, nonprofits and government work together to close the protein gap."

Dr Joseph Gulizia Joins NOVUS to Support Poultry Research and Innovation

CHESTERFIELD, MO (April 23, 2026) – Joseph Gulizia, Ph.D., has joined NOVUS as its new global poultry research manager. In this role, he will design and execute research trials, analyze results, and translate findings into scientific publications and technical resources for the poultry industry.

Gulizia replaces longtime NOVUS poultry nutritionist and researcher, Frances Yan, Ph.D., who retired earlier this year. He joins the leader in intelligent nutrition from Auburn University in the United States where he recently finished a postdoctoral fellowship.

Gulizia originally wanted to be a veterinarian and credits his longtime mentor, educator Kevin Downs, Ph.D., with the shift to animal agriculture.

"While I was studying animal science at Middle Tennessee State University, I conducted undergraduate research in ruminant and poultry nutrition with Dr. Downs," he says. "He introduced me to animal agriculture research and encouraged me to pursue graduate studies in poultry science."

NOVUS Exec Manager-Global Poultry Technology Lead Hugo Romero, Ph.D., says having the young researcher join his team fits the company's goals for poultry research.

"We specifically wanted someone who would bring fresh energy, curiosity, and new ideas into our poultry research program—someone who can grow within the company by challenging the status quo and contributing to meaningful, longterm improvements," says Romero. "Although Joseph is just completing his postdoctoral fellowship, his academic and research accomplishments already rival those of seasoned industry professionals."

Gulizia has led broiler nutrition trials, published peer reviewed research, and built deep expertise in feed additives, calcium and mineral nutrition, gut health, and nutrient digestibility. Romero says his background blends strong statistical and experimental design training with hands on experience in feed milling, including particle size analysis, pelleting, and feed manufacturing workshops.

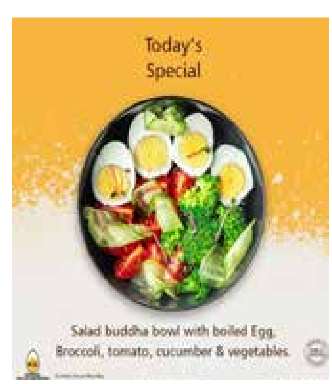
"His innovative mindset, extensive publication record, and ability to translate complex data into practical insights make him the ideal scientist to help us expand our research capabilities at NOVUS," says Romero.

Gulizia's research at NOVUS will focus on understanding the company's organic trace mineral, eubiotic, and enzyme products through bird performance, nutrient utilization, and gut health to support customers and the poultry industry.

"I'm still early in my time at NOVUS, but I have already seen that the poultry team is highly committed to developing innovative nutritional strategies and feed solutions to help customers manage challenges such as necrotic enteritis and support overall flock performance," he says.

A native of Tennessee now residing in North Carolina, Gulizia is a member of the Poultry Science Association and World Poultry Science Association.

NOVUS is the intelligent nutrition company combining global scientific research with local insights to develop innovative, advanced technology that helps farmers get more from their herds and flocks. Learn more about how NOVUS is supporting poultry to meet their full potential at novusint.com.



Venworld in association with Special Nutrients, USA, leads industry dialogue on multiple toxin control in series of technical seminars

Venworld in association with Special Nutrients (USA) Leads Industry Dialogue on Multiple toxin Control with West and Central India Technical Seminar Series

Pune: April 2026 — Venky's India Limited's Venworld team known for its innovation and scientific excellence, successfully hosted a series of technical seminars on "Challenges in Multiple Toxin Control in Poultry" across Nashik, Pune, and Bhopal from April 6–9, 2026.

Bringing together poultry consultants, veterinarians, nutritionists, and farmers, the seminars provided a strong platform to address the growing threat of mycotoxins and chemical toxins and share practical, science-based solutions for the poultry industry.

At the Pune seminar, Mr. Deepak Khosla (GM – Sales & Marketing) emphasized the urgency of tackling mycotoxin challenges and reaffirmed Venworld's commitment to delivering research-driven solutions that safeguard animal health and productivity.

The keynote sessions across all three cities were delivered by Dr Joseph Garcia, Technical Director – Special Nutrients, USA, who shared global perspectives on multi-mycotoxin challenges and effective mitigation strategies. He stressed the importance of selecting toxin binders backed by proven in vivo efficacy, measurable performance improvement, and safety validation.

During his sessions, Dr Garcia explained how mycotoxin polarity and molecular size influence binder effectiveness and highlighted that clay quality can vary significantly depending on source and geological strata.

He also outlined stage-specific feeding strategies using Venworld solutions for breeders, layers, and broilers—designed to support optimal protection while improving cost efficiency.

To ensure strong on-ground understanding and application, Dr Vishwas Sagajkar (DGM – Marketing, AHP) further simplified and explained Dr Garcia's lecture for attendees.

Dr Garcia also highlighted Biobantox and Biobantox Plus, emphasizing their advanced binding capabilities and effectiveness across a wide spectrum of mycotoxins, pesticides toxins and endotoxins as well.

The seminar series commenced in Nashik with a traditional lamp lighting ceremony led by Dr Vishwas Sagajkar and Dr H.G. Murade (DGM – Sales). The Pune seminar followed with a ceremonial lamp lighting led by Mr. Deepak Khosla, Dr Vishwas Sagajkar, and Dr H.G. Murade. The series concluded in Bhopal, where the lamp lighting ceremony was conducted by Dr Hemant Murade, along with Mr. Sanjay Dubey (Phoenix Hatchery), Dr Joseph Garcia, and Dr Shashikant Shiwarkar (AGM – Technical Services), marking the formal inauguration of each event.

Venworld Officials Presence:

Nashik: Mr. Ram P. Ghate (AGM – West Zone), Dr Amruta Doiphode, Dr Aditya Mohite, Mr Vasant Ingale, Mr Amit Bhavar

Pune: Mr Ram P. Ghate (AGM - West Zone), Dr Aniket Sampate (RSM)

Bhopal: Dr Shashikant Shiwarkar, AGM – Technical Services, Mr Abhishek Gupte, ZM – Central Zone, Dr Vaibhav Patil, Manager - Nutritionist, Dr Nilesh Datir, Technical Services, Mr Shailendra Tripathi, RSM, Mr Pramod Shukla

About Venworld:

Venworld is a trusted name in animal healthcare, delivering high-quality, research-based solutions for the livestock and poultry industry.

A view of participants in the seminar

Transforming Poultry Health in Nepal: Launch of "VENGEM" -A low pathogenic avian influenza (H9N2) vaccine

Low Pathogenic Avian Influenza (LPAI) H9N2 subtype has led to significant economic losses to the poultry industry around the world. These losses are primarily due to a substantial decline in egg production, respiratory illness and complications,

and mortality. The H9N2 G1-W lineage infections are been increasingly reported in Nepal and are now widely prevalent across poultry, posing a serious threat to poultry industry.

Despite the availability of commercial H9N2 vaccines internationally, their effectiveness in Nepal has remained uncertain due to antigenic differences between imported vaccine strains and the locally circulating field strains. This mismatch often leads to suboptimal protection and increases the risk of vaccine failure under field conditions.

To address this challenge, Ventri Biologicals a leading manufacturer of poultry vaccines in India registered the low pathogenic avian influenza H9N2 vaccine in Nepal. This vaccine was

launched and used in India, since December 2024. The introduction of this vaccine in India played a crucial role in strengthening the respiratory disease control programs, reducing economic losses, and improving the livelihoods of poultry farmers.

The technology was developed by **ICAR-National Institute of High Security Animal Diseases (NIHSAD),** India to control antigenically diverse H9N2 strains prevalent in the region. Under the Government's technology transfer policy, the vaccine technology "Inactivated Low Pathogenic Avian Influenza (H9N2) Vaccine for Chickens" was transferred from ICAR-NIHSAD, Bhopal to M/s Venkateshwara Hatcheries Pvt. Ltd., Pune. This transfer was facilitated by Agrinnovate India Ltd. (AgIn), New Delhi. As part of this initiative, hands-on training on the inactivated H9N2 vaccine was conducted at NIHSAD, Bhopal for 'Ventri Biologicals' production team. Ventri Biologicals

established a state-of-the-art Biosafety Level-3 (BSL-3) vaccine manufacturing facility dedicated to avian influenza vaccine production. The facility incorporates advanced process automation, including semi-automatic chick embryo inoculation systems, automated allantoic fluid harvesting, closed-system inactivation, and automated formulation, filling, and labeling processes.

Ventri Biologicals had branded the vaccine as **"VENGEM"**, symbolizing a valuable solution aimed at safeguarding poultry health and enhancing productivity. In future, Ventri Biologicals has plans to expand its Vengem vaccine portfolio with a series of related products, including concentrated formulations and combination vaccines with other viral antigens.

To create awareness and share insights on the VENGEM vaccine, a series of meetings with poultry farmers and veterinary consultants were conducted in Nepal at Kathmandu and Chitwan on 6th and 8th April 2026 respectively. The vaccine was officially introduced by Dr Prakash Reddy, with a comprehensive presentation on effective disease control strategies, emphasizing how Vengem strengthens flock immunity and minimizes economic losses caused by Low Pathogenic Avian Influenza (LPAI). The sessions included an introductory address by Mr Chita Sahoo, coordination by Dr Sambhaji Nimbalkar, and a vote of thanks by Mr Jivan Kunwar.

The launch of VENGEM marks a significant milestone in strengthening disease control strategies in the poultry sector in Nepal.

A view of participants in the seminar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Glamac International hosts Annual Meeting 2025-2026 in Munnar, Kerala

Abir Mukherjee, Managing Director, Glamac International giving appreciation award to his team during Annual Meeting at Munar, Kerala on 9 - 12 April 2026

Glamac International Private Limited, a leading name in the Poultry Nutrition Industry in India, successfully concluded its Annual Meeting for the fiscal year 2025 - 2026. held from April 9 to April 12, 2026, at the Sterling Resorts, Munnar. The event brought together company's all top executives, sales & operation leaders, and technical experts from India, Nepal, and Bangladesh to review the performance, unveil new products, and outline strategic goals for the upcoming year.

- The meeting featured comprehensive sessions on the company's performance, future strategies, and key innovations. Among the highlights were the much-anticipated "Way Forward 2026-2027" insight delivered by Managing Director Mr Abir Mukherjee, followed by Forey into international business – Conducted by Mr Shobit Kumar Sahu, International Business Manager. The most interactive part of the meeting was VAP, our recently launched sensational product developed through SenMu Taiwan for "Viral Defence" as feed additive and water-soluble powder presented by Dr Sumon Nag Chowdhury, AGM- Technical and Marketing.

A view of participants in the seminar

Mr Dinesh Kumar Singh Corporate Trainer Farmall Nutriconnect LLp. was the guest of honour where he conducted a highly interactive sales orientation training.

The event also included Sales Review 2025-26 by Dr Manish Chaurasia, AGM - Sales & Marketing and Dr Sumon Nag Chowdhury, AGM - Sales and Technical followed by Budget 2026 – 2027 led by Mr Sujit Jadhav, Sr. Manager- Finance & Operations.

Participants in Glamac International Annual Meeting 2026-2026

Contd on page 22


Essential for the Poultry Health
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Goodness of Essential oils
REDUCES INCIDENCES OF
RESPIRATORY AND VIRAL DISEASES
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Lemon Oil
Thyme Oil
Menthol
Oregano Oil
Q.S
Benefits
01 Improves immunity and reduce incidence of respiratory and viral diseases
02 Composition of essential oils makes it a strong expectorant, which helps to reduce the respiratory problems
03 The best treatment and prevention of CRD and CCRD
04 Improve carcass traits along with optimum performance of bird to get maximum production and efficiency
05 Acts as a relaxing, antiseptic, spasmolytic, soothing, softening and cooling muscle anti-inflammatory agent
06 Acts as antiviral, antibacterial, anti-inflammatory and anti -oxidant which improves overall health and efficiency of bird
Dosage
Drinking Water-
150 to 200ml / 1000 litre of water
By Spraying-
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Presentation
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Feed Supplement Division
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For trade enquiry:
Contact no - 020-71251840
Website- www.venkys.com
Uttara Impex Pvt Ltd

PhyGeno Unveils PhyMune: The Future of Plant-Based Immune Health in Livestock

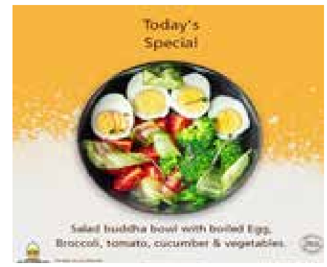
PhyGeno, a division of Avitech Nutrition, has recently launched PhyMune – a plant-derived immunomodulator designed to optimise health and resilience in poultry/ livestock. PhyMune was launched on 14th April, 2026 during the company's Quarterly Sales meeting.

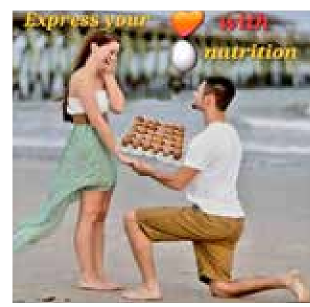
PhyMune enhances the innate immune system, allowing livestock to better navigate environmental stressors and disease challenges.

PhyMune:

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

PhyMune provides a much needed natural solution to address the growing and imminent threat of disease in modern poultry/livestock production systems.





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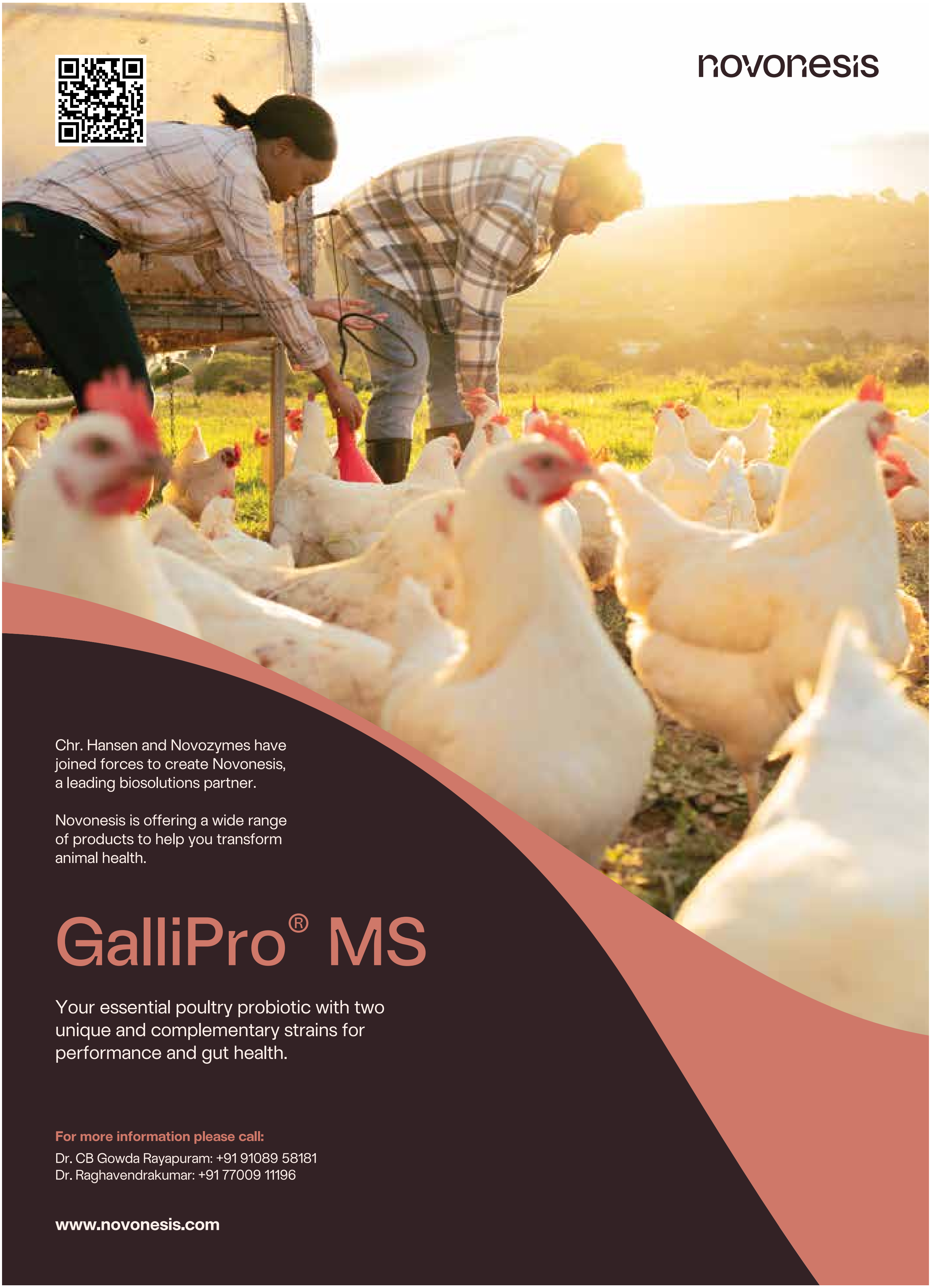
Recognizing Excellence: The Annual Meeting celebrated the dedication and outstanding performance of the Glamac team with a prestigious Award Ceremony. Notable accolades included:

- Long Service Award: Mr Rohit Gulati & Mr Prashant Jangam.
- Glamac Superstar Award FY 2025-2026: Mr Navnath Bankar, Area Manager, Pune.
- Crowning Achievement Award FY 2025-2026: Mr Sushil Aryal -Nepal & Mr Rohit Gulati -Chandigarh
- MD Award FY 2025-2026: Mr Sujit Jadhav,- Sr. Manager, Finance & Operations
- Top Performer Award FY 2025-2026: Dr Sumon Nag Chowdhury, AGM & Mr Satish Nikam, Dy. Manager, Finance & Accounts
- Management Award for Commitment & Sincerity: Dr Rajesh Reddy, Product Manager & Dr Manish Chaurasia, AGM

Beyond the Boardroom: The annual meet seamlessly blended business with leisure. Attendees enjoyed a spectacular Sightseeing in Munnar Hill Station & experienced the vibrant Kathakali Dance along with Kalaripayattu show in Munnar.

A Vision for the Future: Glamac is expanding international business and has strengthened its leadership team with the appointment of Mr Shobit Kumar Sahu, International Business Manager and focused to be a Rs 100 Cr. Company in the next three years. The Annual Meeting 2025-2026 was a resounding success, reinforcing Glamac leadership and vision for a future of sustainable growth and innovation.

"Our Annual Meeting is a testament to our commitment to innovation, collaboration, and excellence," said Mr Abir Mukherjee, Managing Director of Glamac International Pvt Ltd. "As we move forward into FY 2026-2027, we remain focused on innovative products, delivering exceptional solutions and fostering global partnerships & sourcing.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Vetline holds AGM 2025–2026 with Strategic Vision

Vetline, a division of Simfa Labs Private Limited and a prominent player in India's animal healthcare sector, successfully concluded its Annual General Meeting for the financial year 2025–2026. The event was held from April 2 - 4, 2026, at Hotel Ramada Encore, Indore.

The meeting convened senior leadership, sales heads, and technical experts from across the country to review organizational performance, introduce new product and define strategic priorities for the upcoming financial year.

The agenda featured a series of comprehensive and forward-looking sessions. A key highlight was the "Way Forward 2026–2027" address delivered by Director, Mr Dilraj Singh Bhatia and Executive Director, Mr Sumeet Singh Bhatia, outlining the company's long-term vision and growth roadmap. This was followed by in-depth Sales Review for FY 2025–2026 & Sales forecast for FY 2026-2027 & product launch presentation led by Dr Amit Kumar Patra, General Manager-Sales & Marketing. Marketing strategy discussions, including digital transformation initiatives, were presented by Prafulla Shukla, National Sales Manager. The program also included a leadership development workshop conducted by business consultant Manoj Nair, which received strong engagement and positive feedback.

Innovative Products launch

As part of its commitment to advancing poultry healthcare, Vetline introduced two new products—Immuity+ focused on improving immunity & TRI-O-GUT to improve intestinal health and enhancing overall performance. These innovations reflect the company's continued emphasis on developing effective, science-driven solutions for the poultry industry.

Recognizing Excellence

The Annual Meeting also celebrated outstanding employee contributions through a prestigious award ceremony.

Forward Outlook

In their closing remarks, the leadership reaffirmed Vetline's commitment to innovation, operational excellence, and collaborative growth. As the company enters FY 2026–2027, it remains focused on strengthening its product portfolio, expanding strategic partnerships, and enhancing its leadership capabilities to drive sustained success.

The Annual Meeting concluded successfully, reinforcing Vetline's strategic direction and its commitment to delivering value-driven solutions to the poultry healthcare industry.


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Glamac appoints Shobit Kr Sahu as International Business Manager


Shobit Kumar Sahu

Mumbai: Glamac International Pvt Ltd, a leading company in Poultry Nutrition, announced the appointment of Mr Shobit Kumar Sahu as International Business Manager. In this role, he will be instrumental in managing and growing international business and contributing to the company's growth strategy.

Mr Sahu is a postgraduate in Marketing from Mumbai University. He combines practical industry knowledge with a clear, results-driven approach and known for driving international sales, building strong partnerships, and expanding business across emerging markets.

With a keen interest in global trade and long-term collaborations, Mr Sahu will work closely with distributors and partners to deliver value-driven, science-backed solutions of Glamac. Focused and resilient, Mr Sahu will strengthen Glamac global presence in contributing sustainable nutrition solution for poultry and aquaculture.

Throughout his career, Mr Sahu has worked with some of the leading feed additives organizations in international markets. With over 8 years of experience his roles have encompassed a wide range of responsibilities across global animal nutrition market in poultry, swine, ruminant, and aquaculture sectors. One of the notable milestones in Mr Sahu's career was his 6+ year tenure at Vinayak Ingredients, a well-recognized name in the animal nutrition industry where he was actively involved in developing and managing distributor networks, identifying new business opportunities, and building long-term relationships with key stakeholders.

During this period, he played a key role in strengthening the company's international presence, particularly across LATAM and South East Asian markets.

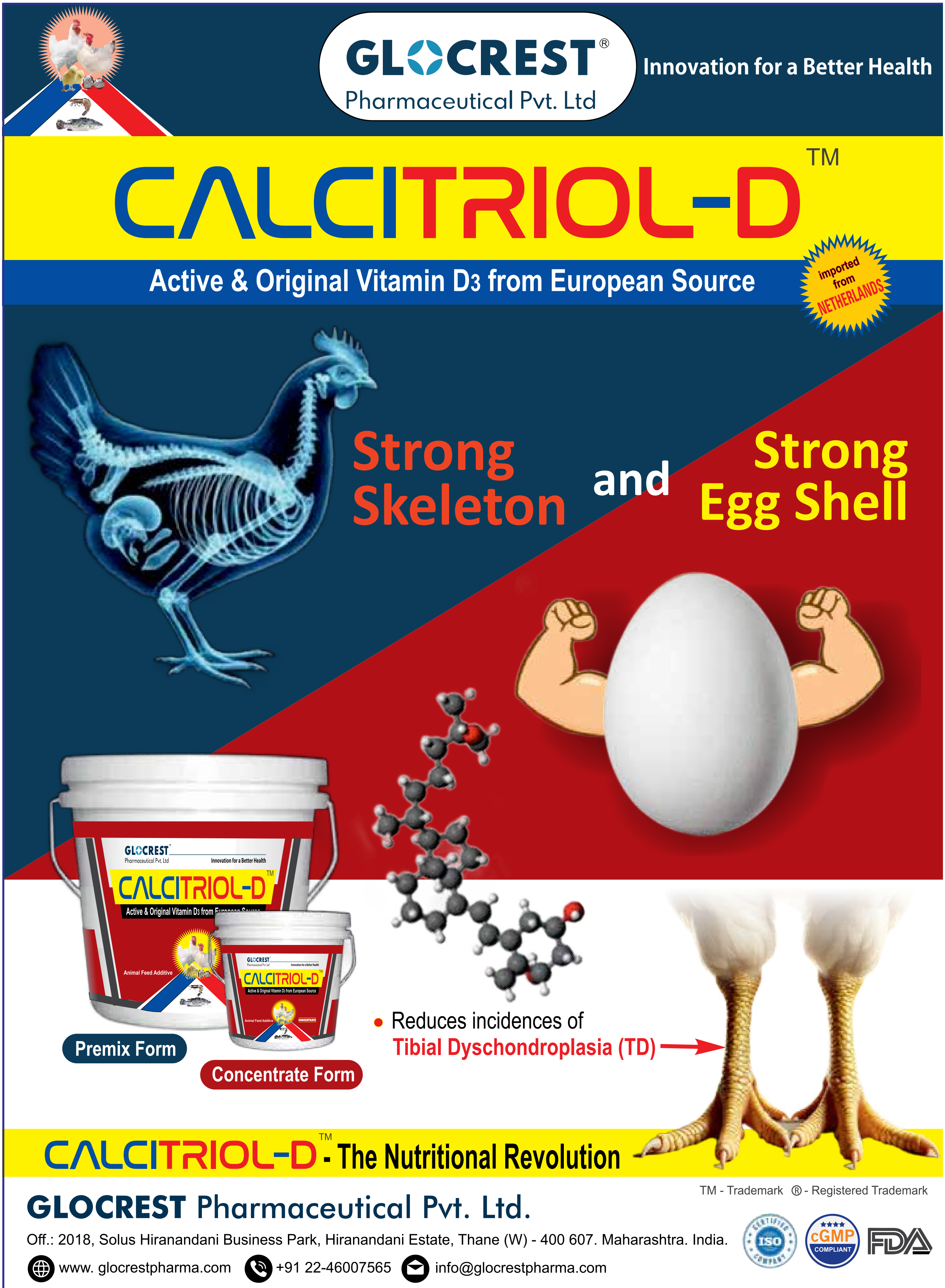
Petersime launches UniStreamer™: intelligent incubators engineered for chick uniformity and full traceability

Petersime proudly announces the launch of UniStreamer™, its next-generation range of single-stage incubators. Designed to meet the poultry industry's rising demand for product consistency, transparency and performance, UniStreamer™ combines unmatched chick uniformity with end-to-end traceability in one intelligent, future-ready solution.

Retailers are raising the bar: they demand consistent volumes, perfectly sized fillets and table eggs that meet ever-stricter quality criteria. At the same time, pressure is mounting for full transparency on product origin and processing. As a world leader in incubation, Petersime has responded with a new generation of intelligent single-stage incubators – UniStreamer™ – engineered to meet today's market demands with confidence.

What truly sets UniStreamer™ apart is its breakthrough in chick uniformity. Designed to deliver maximum uniformity in day-old chicks, Petersime's new incubator lays the foundation for optimal, uniform flock growth in later life. Powered by nature-inspired technologies like HatchSound™ and HatchScan™, UniStreamer™ delivers tighter hatch windows and stronger hatch and post-hatch performance. These innovations are the latest evolution of Petersime's Embryo-Response Incubation™, a proven approach to automatically adapt the incubation environment to the needs of each specific batch of eggs – now taken to its highest level yet.

UniStreamer™ also introduces a new benchmark in traceability. Using unique trolley identification and Eagle Trax™ cloud software, hatcheries can keep record of every trolley's journey throughout the



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entire process, providing full transparency of internal operations while uncovering opportunities to boost performance. Even the farm storage and transport trucks can be included. The result: a complete, digital overview of egg and chick movement improving biosecurity, enabling data-driven performance optimization and ensuring full audit-readiness.

"At Petersime, innovation isn't about adding features for the sake of it – it's about delivering measurable results for our customers," says Rudy Verhelst, Business Development Manager at Petersime. "With UniStreamer™, hatcheries can count on consistently high chick uniformity and full traceability across their operations. A predictable output of uniform, high-quality chicks is only possible when nothing is left to chance. By monitoring every step – from breeder farm to grow-out farm – hatcheries gain the clarity and control to maximize results. And that pays off across the value chain with more uniform growth on the farm, smoother processing and a more profitable, efficient and transparent production process overall."

UniStreamer™ is available in multiple configurations, including UniStreamer™ HD, which offers a 12% higher egg capacity per incubator without compromising performance. Complementary systems such as Re-Store and Chick-Store, also part of the UniStreamer™ family, ensure optimal conditions before and after hatching. From egg reception to chick storage, the entire 'ecosystem' is designed to deliver consistent, high-performance results.

With this launch, Petersime once again redefines the standard for single-stage incubation. Hatcheries looking to meet tomorrow's demands in productivity, performance, traceability and predictable output now have a powerful, proven solution in UniStreamer™.

With UniStreamer™, Petersime introduces a new generation of single-stage incubators that combine maximum chick uniformity with full traceability, laying the foundation for more consistent flock performance and greater overall transparency and efficiency across the poultry value chain.

About Petersime

Petersime provides world-leading incubators, hatchery equipment and turnkey hatcheries aligned with the expertise and support to maximize return on investment. For over 100 years, Petersime's mission has been to use nature as a reference to continue perfecting the incubation process and help customers reach maximum performance. Additionally, Petersime leads the way in the optimization of the poultry value chain through the use of big data. Headquartered in Belgium and with Regional Centres on strategic locations, Petersime's incubators, hatchery solutions and services are available worldwide.


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To maintain fertility and hatchability at optimum levels in breeders
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To avoid transportation and vaccination stress.
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To maintain fluid and pH balance during diarrhoeal conditions.
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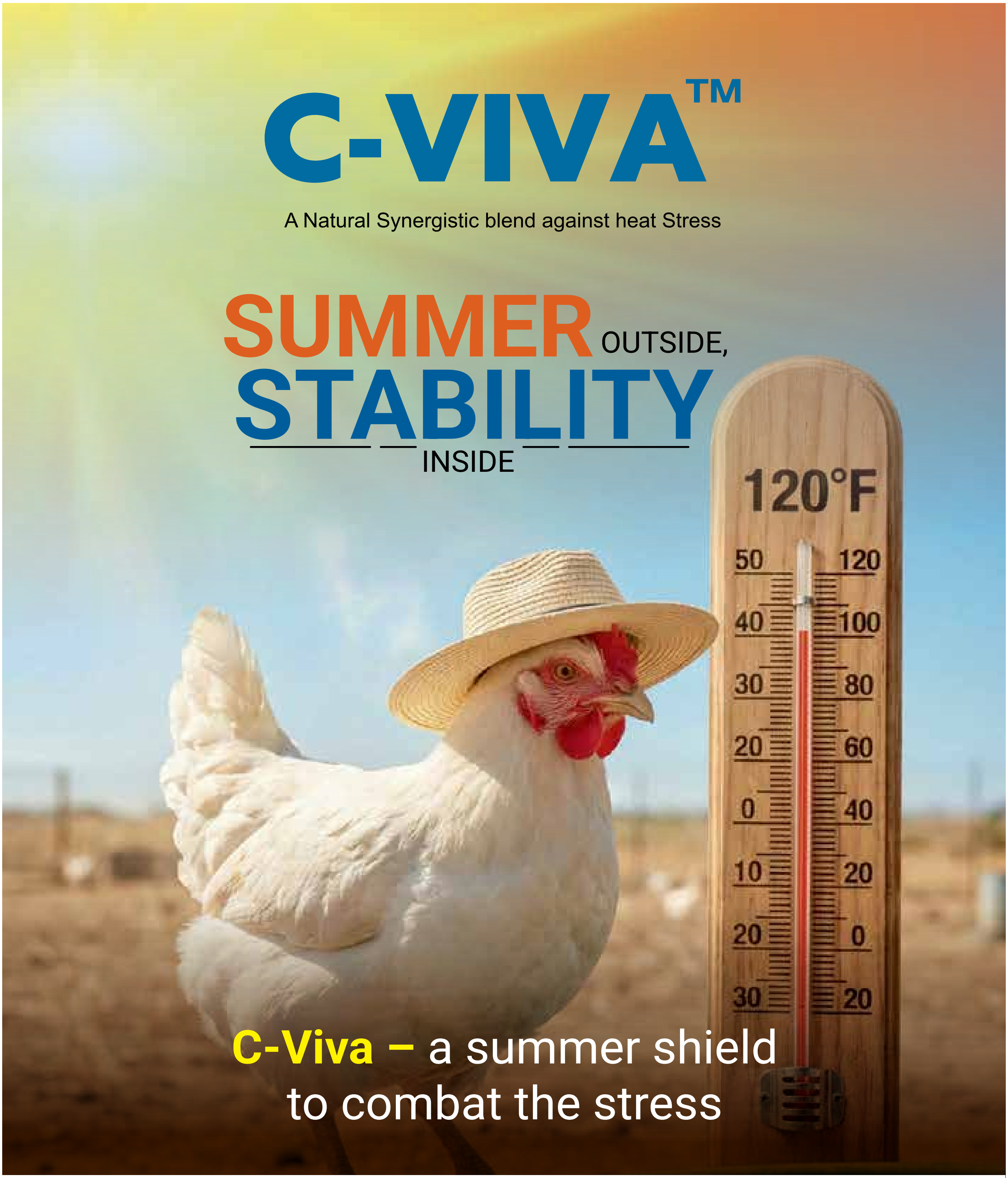
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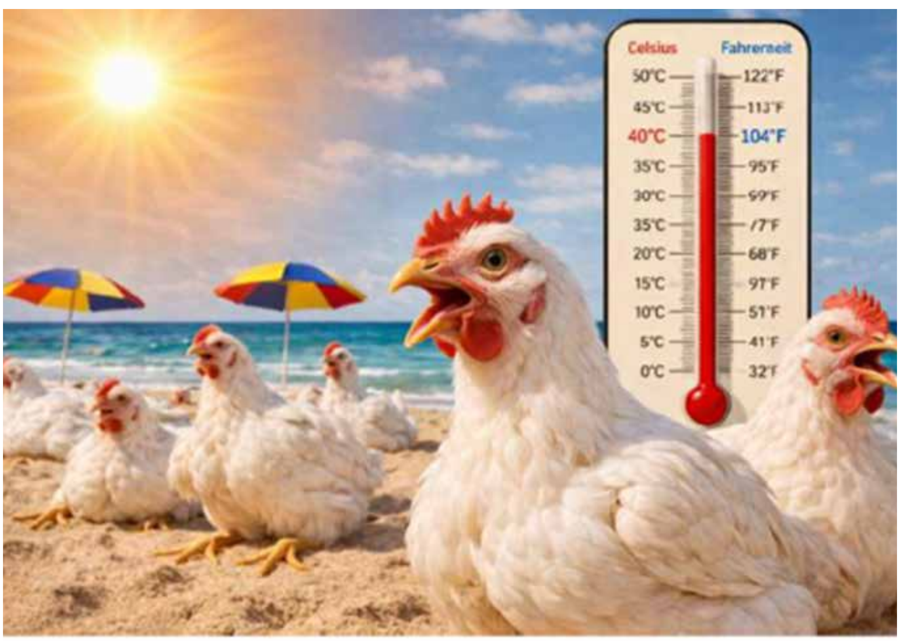
Advanced Summer Stress Management in Broilers

Dr Sunil Nadgauda (DGM – Technical, Venkateshwara B. V. Biocorp Pvt. Ltd.)
Dr Sanjay Deshpandey (AGM – Venkateshwara B. V. Biocorp Pvt. Ltd.)
Dr Siddhi Velhal (Product Executive – Venkateshwara B. V. Biocorp Pvt. Ltd.)

Dr Sunil Nadgauda

Dr Sanjay Deshpandey



Summer poses a major challenge to broiler production due to elevated environmental

temperatures. Heat stress during this period can reduce feed intake, slow growth, suppress

immune function, and compromise overall flock health. If not managed effectively, it may

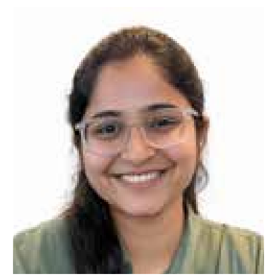
lead to poor flock uniformity, increased mortality, reduced productivity, and substantial economic losses. **A comprehensive, stage-wise management program** is therefore essential to sustain performance during hot weather.

1) Brooding Management (0–14 Days)

The brooding phase is the foundation of broiler performance. Strong brooding management supports early chick vitality, better body weight gain, and improved feed efficiency. In summer, chicks are highly sensitive to temperature fluctuations. Excess heat during the first week can quickly cause dehydration, leading to weak chicks, uneven growth, and long-term uniformity issues. Maintaining **optimal brooding temperature and comfort** is critical.

Key Practices

- **Temperature control:** Maintain target brooding temperatures and monitor chick behavior for comfort cues (even distribution, active movement, steady feeding and drinking).



Dr Siddhi Velhal

- **Ventilation from day one:** Ensure adequate air exchange to remove heat, moisture, and ammonia—without creating direct drafts on chicks.
- **Extra floor space:** Compared to cooler seasons, providing slightly more space helps reduce heat buildup and improves chick comfort.
- **Chick equipment only:** Use chick feeders and drinkers to ensure easy, continuous access to feed and water.
- **Controlled brooding systems:** Electric or gas brooders provide more consistent heat distribution and better regulation than uncontrolled heating methods.
- **Avoid overcrowding:** High stocking density intensifies heat stress and reduces access to feed and water.

Early Heat-Stress Signs in Chicks
Watch closely for:

- Panting
- Dullness or lethargy
- Wings spread away from the body
- Reduced feed intake
- Chicks moving away from heat sources and clustering near cooler areas

Immediate Corrective Actions
If stress signs appear:

- Increase ventilation and airflow without chilling chicks.
- Keep side curtains appropriately open to release trapped heat and ammonia.
- Ensure **unrestricted access to cool, clean water** to prevent dehydration.

2) Growing Management (15 Days to Market)
As broilers grow, their ability to tolerate heat declines. Larger birds produce more metabolic heat and are more susceptible to heat stress, making **space, resource access, and handling practices** especially important.

Key Practices
- **Provide adequate floor space** early: Expand space at the earliest to prevent overcrowding later.
- **Resource availability:** Maintain enough feeders and drinkers to reduce competition and ensure uniform intake.
- **Improve uniformity:** Separate weak or smaller birds to support growth and reduce stress from competition.
- **Schedule stressful activities wisely:** Vaccination and routine procedures should be done during cooler hours (early morning or late evening).
- **Minimize handling of heavy birds:** Higher body weight birds are more vulnerable— avoid weighing, moving, or catching during peak daytime heat to prevent heat exhaustion and mortality.

3) Feeding Management
High temperatures reduce feed intake, directly affecting growth rate and feed conversion.

Feeding programs must aim to maximize intake during cooler periods and reduce metabolic heat production during peak heat.

Practical Feeding Strategy
- **Feed during cooler hours:** Offer most of the feed early morning and late evening, when birds are more active.
- **Midday feeder management:** During peak heat, feeders may be temporarily lifted or feeding controlled to reduce metabolic heat production and provide birds more resting space.
- **Adequate feeder space:** Ensure sufficient feeder access to support uniform consumption across the flock.
- **Use structured feeding approaches when needed:** Controlled or phase feeding can help optimize nutrient utilization and reduce heat load, particularly in high-risk flocks.

4) Water Management
Water is essential for thermoregulation and maintaining electrolyte balance during summer.

In heat stress conditions, water intake rises sharply—so quantity, quality, and temperature become critical.

Key Practices
• **Continuous supply:** Ensure 24/7 access to clean, cool water.

• **Manual systems:** Replace water multiple times daily to keep it fresh and cooler.

• **Nipple systems:** Flush lines regularly to prevent water warming in pipelines.

• **Water quality focus:** Low groundwater levels can increase contamination risk. Routine

water sanitation and monitoring are essential.

- **Acidification:** Water acidifiers can help maintain hygiene by lowering pH and supporting gut health.
- **Supportive supplementation:** Electrolytes, probiotics, and Vitamin C through drinking water can improve hydration, reduce oxidative stress, and enhance resilience under heat stress.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Sy. No. 21/4, Kempalingapura, Devanahalli, Bengaluru, Karnataka, India, Pin-562110.

5) Shed Management

Housing and environmental control can significantly reduce heat load on birds. The goal is to limit radiant heat, improve air exchange, and enhance evaporative cooling where appropriate.

Cooling and Housing Practices

- **Roof insulation:** Use locally available materials (paddy straw, coconut leaves, etc.) to reduce internal temperature.
- **Protect water tanks:** Shade external tanks and cover them with wet gunny cloths to prevent water heating.
- **Cooling interventions:** Use roof sprinklers, foggers, or misting systems to help regulate shed temperature.
- **Wet curtains:** Hang wet gunny curtains along sidewalls to enhance evaporative cooling.
- **Reduce direct sunlight:** Ensure proper shed orientation and shading to minimize radiant heat entering during peak hours.

Litter and Biosecurity

• **Maintain good litter quality:** Keep litter as dry as possible. Excess moisture increases

humidity and ammonia, worsening heat stress and respiratory load.

• **Strict biosecurity:** Follow strong biosecurity measures consistently to prevent disease

outbreaks, which become more damaging during heat stress periods.

Conclusion

Effective summer management in broilers requires an integrated approach across brooding,

growing, feeding, water, and shed management. By applying these practical, science-based

strategies, producers can minimize heat stress, protect flock health, maintain uniformity,

reduce mortality, and sustain consistent performance—even under extreme summer conditions.


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The protein scaling in India from 1989 and efforts to combat malnutrition and school enrolments in the southern states of India

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Chethan Lokesh

Highlights

India's per capita egg consumption increased from ~20 eggs/year in 1989 to ~90 eggs/year in 2024, reflecting major improvements in protein access.

Southern states like Tamil Nadu and Andhra Pradesh significantly improved child nutrition and school enrollment through egg-based welfare programs.

Eggs provide a low-cost, complete protein with essential nutrients critical for child growth, brain development, and immunity.

Despite progress, India still falls short of the recommended 180 eggs/year, highlighting a major gap in nutrition policy and implementation.

Introduction

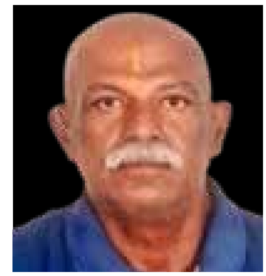
A child who wakes up every morning, walks to school with an empty stomach, and sits in a classroom trying to concentrate but cannot, because her body and brain do not have enough food. This is not a story from the distant past. For millions of children across India, this was and for some, still is an everyday reality.

Protein is not just a word on a nutrition label. It is the building block of muscles, the fuel for the brain, the engine behind a growing child's body. Without enough protein in the diet, children grow slowly, fall sick often, and struggle to learn. Adults too become less productive. Entire communities can be held back by something as preventable as protein deficiency.

Geetha Madhuri

India has been fighting this battle for decades. Since the late 1980s, there has been a gradual but significant scaling up of protein availability across the country. The southern states Tamil Nadu, Kerala, Karnataka, Andhra Pradesh, Telangana, and the Union Territory of Puducherry have been at the forefront of many of these efforts. And at the very centre of this nutrition revolution stands one of the most remarkable, affordable, and scientifically validated foods on earth: the egg.

"The egg is not just breakfast. In the fight against child malnutrition, it is one of the most powerful tools we have"



Dr K Ravi Kumar

This article tells the story of how India, and particularly southern India, has worked to put more protein on the plate, reduce malnutrition, and get more children into school and how the humble egg has played a starring role in that story.

The Egg: Complete Protein Package

Before we trace the history of nutrition policy in southern India, it is worth pausing to understand why the egg deserves special attention particularly for readers of nutrition focused.

The egg is one of the very few foods that nutritionists call a 'complete protein.' This means it contains all nine essential amino acids the building blocks of protein that the human body cannot make on its own and must get from food. On a scale called the Protein Digestibility Corrected Amino Acid Score (PDCAAS), the egg scores a perfect

Did You Know? The Egg and Brain Development

Choline found in egg yolk is essential for the formation of the brain's memory centres. Studies have shown that children who receive adequate choline during the first 2 years after birth show better cognitive performance, stronger memory, and reduced risk of neural tube defects. One egg provides approximately 147 mg of choline nearly 27% of the daily requirement for a child aged 1-3 years. No plant food comes close to this level of bioavailable choline. For a country like India, the egg is not just food it is brain fuel.

Nutrient	Per Whole Egg (approx. 50g)	Why It Matters for Children
Protein	~6.3 g (complete protein)	Builds muscles, supports brain growth
Vitamin A	~75 mcg	Eye health, immune defence
Vitamin D	~1.1 mcg	Bone development, calcium absorption
Vitamin B12	~0.6 mcg	Brain and nerve function
Choline	~147 mg	Memory, cognitive development
Iron	~0.9 mg (heme-iron form)	Prevents anaemia, improves attention
Omega-3 fats	~37 mg (DHA)	Brain and retinal development
Selenium	~15 mcg	Antioxidant, thyroid health
Calories	~70 kcal	Affordable, energy-dense food

1.0 the highest possible rating, meaning its protein is fully usable by the human body (Longvah et. al., 2017).

But protein is only the beginning of what an egg offers. A single medium-sized egg packs an extraordinary range of nutrients into roughly 70 calories and costs, at the time of writing, between Rs. 6 and Rs. 8 at Indian retail prices making it one of the cheapest high-quality nutrition sources available to any Indian family.

Section 1: Where India Stood in 1989 A Protein-Deficient Nation

In the late 1980s, India was undergoing rapid change. Economic reforms were on the horizon. Population was growing. And millions of families especially in rural areas were surviving on diets that were heavy in carbohydrates but dangerously low in protein.

The National Sample Survey (NSS) data at that era showed significant portion of India's rural population consumed less than the recommended dietary allowance (RDA) of protein, then approximately 60 grams per day for an adult. The problem was not the quantity of food it was the quality. People were eating enough calories to feel full, but their diets lacked pulses, eggs, milk, and other protein-rich foods (Sen, A., 2001).

Eggs were among the most conspicuous absentees from

The Egg Gap in 1989

India's per capita egg consumption in the late 1980s was estimated at around 20-25 eggs per person per year far below the recommended 180 eggs per year suggested by the World Health Organization (WHO) and the Food and Agriculture Organization (FAO) as part of a balanced diet. By contrast, countries like Japan and the United States were consuming over 300 eggs per person per year. The southern states, particularly Andhra Pradesh, were already among India's highest egg-consuming regions a pattern that would become nutritionally significant in the decades ahead.

poor households' diets. In some communities, cultural or religious beliefs discouraged egg consumption, especially for children and women ironically the two groups who need protein the most. This resulted in widespread protein-energy malnutrition (PEM) among children under five, stunted growth, poor immunity, and reduced school performance.

Section 2: Government Programmes That Put Eggs on the Plate

One of the most important things to understand about the fight against malnutrition in India is that it did not happen on its own. It took sustained government action through schemes that directly delivered food, healthcare, and nutrition support to the most.

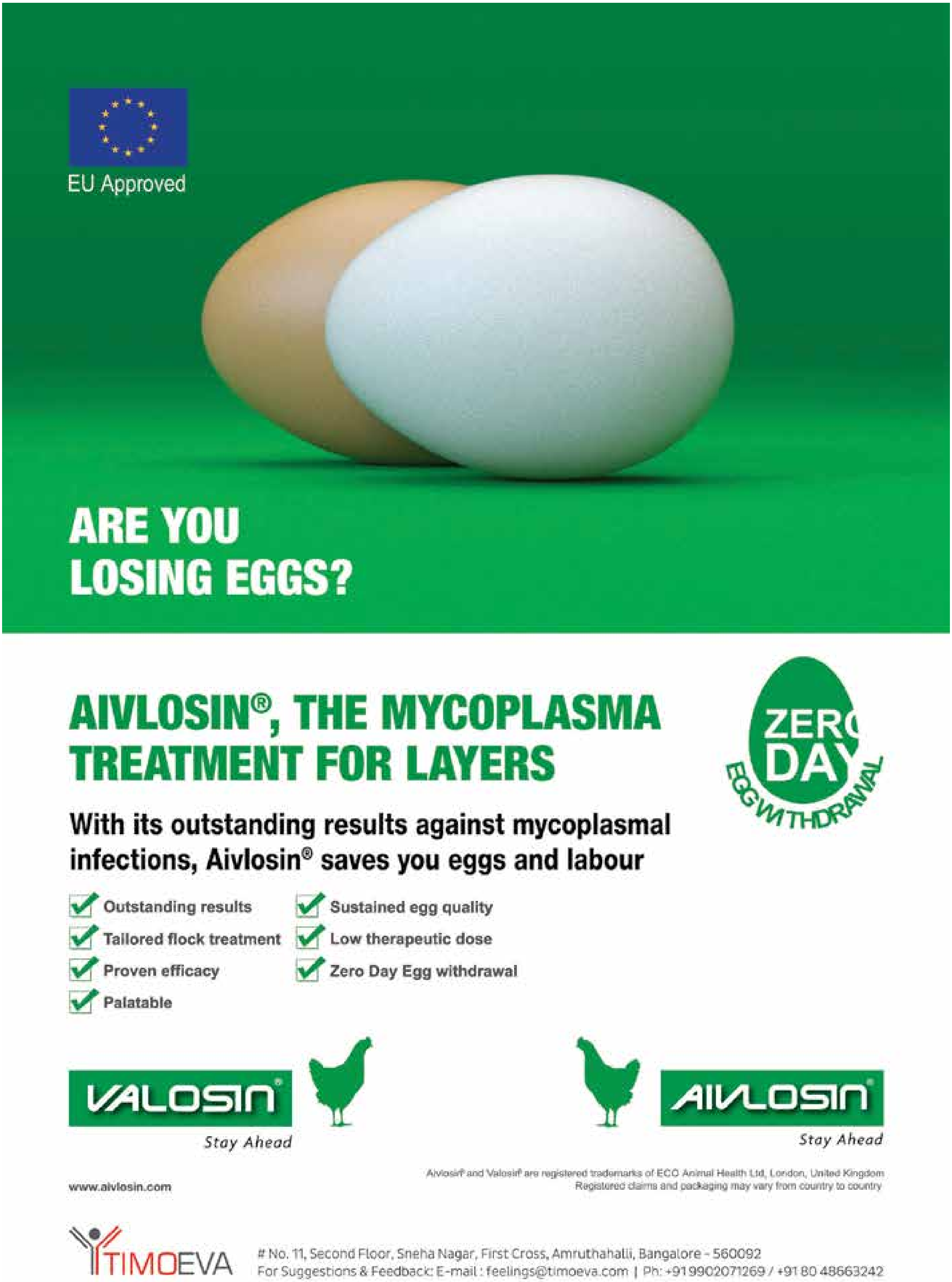
The Integrated Child Development Services (ICDS) and the Egg

Launched in 1975 and expanded significantly through the 1990s and 2000s, the ICDS programme operates through Anganwadi centres locally-run child care and nutrition hubs. Children under six and pregnant or nursing mothers receive supplementary nutrition, health check-ups, and pre-school education.

As ICDS improved, several southern states began incorporating eggs into the supplementary nutrition provided at Anganwadi centres. Tamil Nadu and Andhra Pradesh were among the first to do this systematically. Nutritionists within the system recognised what poultry scientists had long known, no other food of comparable cost delivers as broad a nutritional profile as the egg (Vir, S. C. 2023).

The Mid-Day Meal Scheme: Tamil Nadu's Egg Revolution

The state had long been topped in school feeding the modern, state-wide programme was launched by Chief Minister K. Kamaraj in 1956. But it was Chief Minister M.G. Ramachandran (MGR) in 1982, took the historic step of including eggs in the mid-day meal for all government school students.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This was a bold decision. MGR understood that rice and sambar alone cannot provide the protein, vitamin A, vitamin B12, iron, and choline that growing children needed. The egg, served twice or thrice a week, transformed the nutritional profile of the school meal overnight. Teachers reported more alert, attentive students in the afternoons. Nutritional surveys showed measurable improvements in the weight-for-age and height-for-age scores of children in government schools.

"When MGR put an egg on every child's plate in Tamil Nadu, he was doing what decades of policy documents had only discussed. He was acting on the science."

Tamil Nadu's egg-inclusive mid-day meal became a model that other states and the national programme would later reference. When the Government of India launched the National Mid-Day Meal Scheme in 1995, which grew into the world's largest school feeding programme, the scientific case for including eggs was already well-established, in large part thanks to Tamil Nadu's real-world demonstration (Kanishka, M. 2025).

Andhra Pradesh and Telangana

Andhra Pradesh has long held a unique position in India's poultry sector. The state and after bifurcation in 2014, Telangana together constitute one of the largest egg-producing regions in the country. States like Andhra Pradesh and Telangana produce a significant share of India's total egg output, with major poultry clusters around Namakkal (Tamil Nadu) and the regions around Hyderabad also playing a key role (Prasad, S., & Kumar, S. 2022).

This production advantage has had a direct nutritional benefit. Eggs in Andhra Pradesh and Telangana are cheaper and more widely available than in many other parts of India, making them accessible to a broader section of the population. Both state governments have capitalised on this by including eggs in welfare food schemes from Anganwadi supplementary nutrition to school mid-day meals and even subsidised canteen programmes. The result is that per capita egg consumption in these states is among the highest in India, and their nutrition indicators, while still showing challenges, have improved more rapidly than states with lower egg consumption.

Tamil Nadu

Tamil Nadu stands out as a model for nutritional intervention in India. Its early adoption of school feeding with eggs, a robust Anganwadi network, and a universal Public Distribution System (PDS) have contributed to substantial improvements in child nutrition. According to the National Family Health Survey (NFHS-5, 2019-21), the proportion of children under five who are stunted in Tamil Nadu was around 25%, a notable decline from earlier surveys.

The state's Chief Minister's Breakfast Scheme (launched 2022) provides primary school children with a morning meal that includes eggs, further extending the window of egg-based nutrition in a child's day. Tamil Nadu also runs the Namakkal poultry belt one of Asia's largest egg production clusters which ensures a steady, affordable supply of eggs for both welfare schemes and the open market. The alignment between strong local production and strong state-level nutrition policy is one of Tamil Nadu's greatest public health assets Radharkrishna, R., & Subbarao, K. (Eds.) (1997).

Kerala

Kerala's celebrated 'Kerala Model' of development high literacy, low birth rates, good health outcomes is well known. The state has one of the lowest rates of child malnutrition in India, with an NFHS-5 stunting rate of about 23.4%. Egg consumption in Kerala is relatively high, consistent with the state's diverse, fish and protein-rich dietary culture (Iips, I. C. F. 2021).

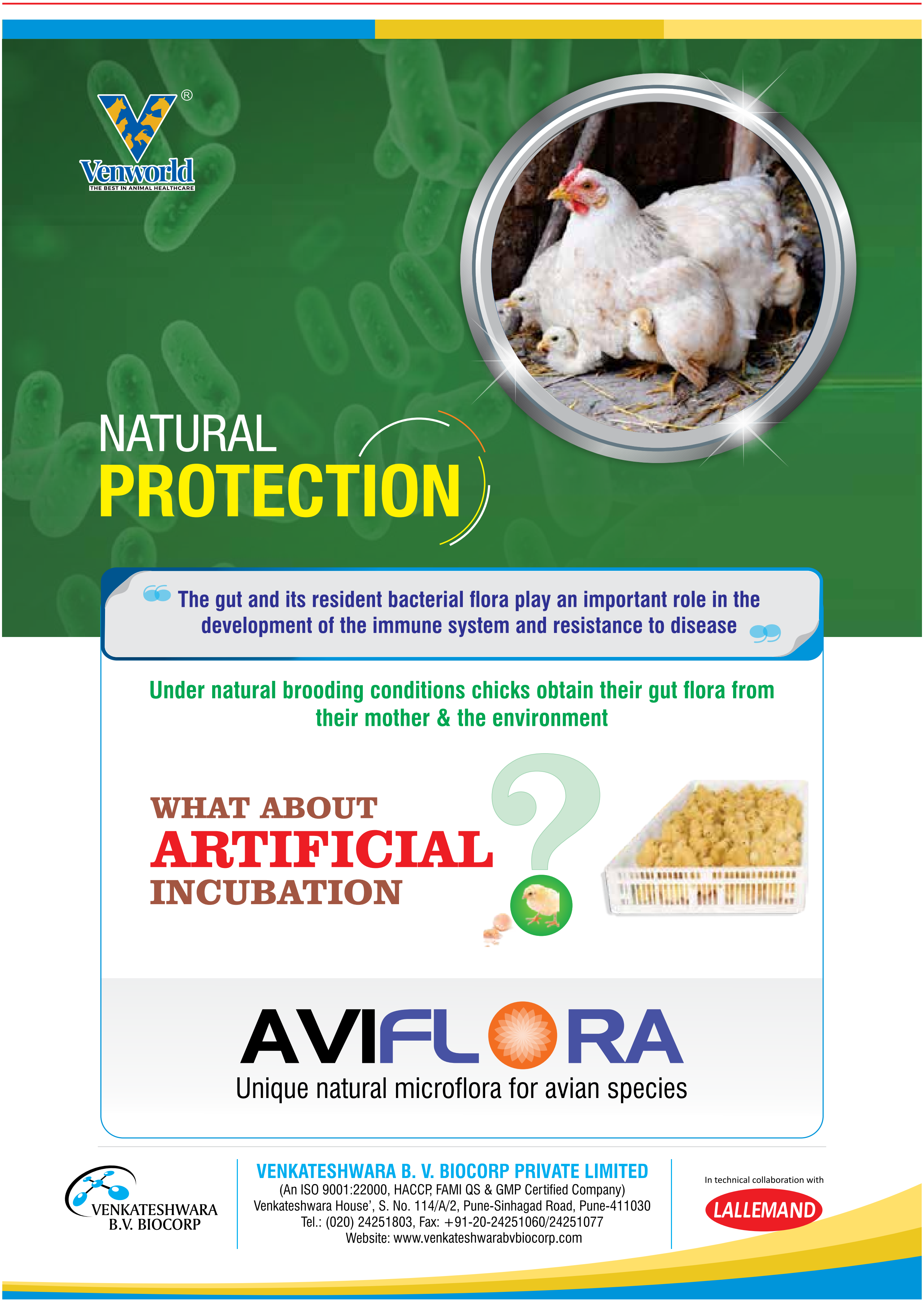
The Kudumbashree programme, a women-led self-help and livelihood initiative, has supported poultry-keeping by women's groups in rural Kerala, simultaneously improving livelihoods and increasing local egg availability. This bottom-up approach empowering women to produce eggs and keep them within the household food supply is an underappreciated model with lessons for other states (Menon, P., Varghese, S. P., & Minimol, K. 2023).

Karnataka

Karnataka presents a more mixed picture. The state's Ksheera Bhagya scheme provides free milk to school and Anganwadi children, addressing protein and calcium needs. However, Karnataka's mid-day meal programme has faced debates about the inclusion of eggs with some districts including

Eggs in Mid-Day Meals: The Evidence

A study published in the journal Maternal and Child Nutrition found that children who received eggs as part of school meals showed significantly better growth outcomes specifically in height-for-age compared to children who did not receive eggs. Egg unique combination of high-quality protein, Vitamin A (critical for immunity and eye health), Vitamin B12 (essential for brain function), and iron (which prevents anaemia and improves concentration) makes them uniquely suited for school feeding programmes. In Tamil Nadu, where eggs are served 3-5 times a week in government school mid-day meals, nutritional surveys have consistently shown better outcomes compared to states where eggs are absent from school meals.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The Egg as a School Enrolment Tool: Real Evidence from Tamil Nadu

A study by researchers analysing Tamil Nadu's mid-day meal expansion found that the introduction of eggs into school meals was associated with a statistically significant increase in school attendance rates, particularly among girls from lower-income families. The researchers concluded that the meal's nutritional quality of which the egg was the key differentiating factor was at least as important as the meal's mere existence in driving enrolment. This is a finding with enormous implications for education policy across India: it is not enough to provide a meal. The meal must be nutritious. And for nutritional quality at low cost, nothing beats the egg. school meals.

them and others, due to local political and cultural considerations, opting out. NFHS-5 data showed Karnataka's stunting rate at about 35.4%, higher than Tamil Nadu and Kerala, which nutritionists have linked in part to inconsistent egg provision in school meals (Iips, I. C. F. 2021).

Advocacy from nutrition scientists, public health experts, and increasingly from the poultry industry itself has pushed for universal egg inclusion in Karnataka's school meals. The scientific evidence is clear: districts that consistently serve eggs show better child growth outcomes. The policy gap is not one of knowledge it is one of political will.

Andhra Pradesh and Telangana

Both states have been aggressive in using eggs as a nutrition intervention tool. Andhra Pradesh serves eggs in mid-day meals five days a week in government schools one of the most generous egg provisions of any state in India. Telangana similarly provides eggs multiple times a week and has incorporated eggs into its ICDS supplementary nutrition. NFHS-5 showed Telangana's stunting rate at about 33.1% and Andhra Pradesh's at approximately 31.2% both showing improvement from the 2015-16 survey round.

The poultry industry in these states benefits from this policy alignment: government procurement for school and welfare meals provides a stable, large-scale demand that supports the livelihoods of thousands of poultry farmers, from small backyard operations to large commercial producers.

Puducherry

As a Union Territory, Puducherry has generally recorded strong nutrition outcomes NFHS-5 placed its under-five stunting rate at around 20.5%, one of the lowest in the country. Its school feeding programme is well-implemented, and eggs feature regularly in both mid-day meals and Anganwadi supplementation. The territory's small size allows for tighter monitoring and implementation quality than is possible in larger states.

The Egg and School Enrollment

One of the most powerful findings in public health and education research is simple hungry children do not learn well, and fed children stay in school. When eggs are part of the meal, the effect is amplified because eggs do not just fill a stomach, they nourish a brain.

Research consistently shows that iron-deficiency anaemia which the egg helps prevent through its bioavailable iron content is strongly associated with poor school performance, reduced attention span, and higher dropout rates. Vitamin B12 deficiency, similarly addressed by regular egg consumption, is linked to neurological impairment that can permanently limit a child's cognitive development if not corrected early (Iannotti et al., 2017).

When Tamil Nadu expanded its mid-day meal to include eggs, school enrollment particularly for girls increased measurably. Parents who might otherwise keep their daughter home to help with household chores were more willing to send them to school when it meant a protein-rich, egg-inclusive meal every day. The egg was not just nutrition. It was an incentive that brought children through the school gate (Jayaraman & Simroth, 2015).

This connection between egg provision and school enrolment has begun to be recognised beyond Tamil Nadu. Advocacy groups, nutritionists, and poultry industry bodies have jointly lobbied state governments to include eggs in all school meals across India. The National Egg Coordination Committee (NECC), which represents India's poultry sector, has been particularly active in this space, providing data, advocacy, and in some cases subsidised eggs to support state-level programmes.

India's Egg Production Growing to Meet the Need

The story of egg consumption and

Key Facts (2023)

Total annual egg production: ~138 billion eggs | India's rank globally: 3rd largest producer | Per capita consumption (2023): approximately 95 eggs/year, up from ~25 in 1989 | States contributing most: Andhra Pradesh, Telangana, Tamil Nadu, Karnataka. Employment: The poultry sector employs over 3 million people directly and many more indirectly. NECC (National Egg Coordination Committee): Established 1982, coordinates pricing, quality, and market development for the Indian egg industry. Source: Department of Animal Husbandry & Dairying, GoI, Annual Report 2022-23 (Statistics, B. A. H. 2019).

nutrition cannot be told without the story of egg production. India's poultry sector has grown dramatically since the 1980s, transforming from a largely backyard enterprise to one of the world's largest organised poultry industries.

In 1989, India produced approximately 15-17 billion eggs per year. By 202-23, this figure had grown to over 138 billion eggs annually, making India the third-largest egg producer in the world, after China and the United States. This growth has been driven by improved poultry breeds, better feed conversion ratios, advances in veterinary science, and the growth of commercial layer farming particularly in the southern states.

Tamil Nadu's Namakkal district and Andhra Pradesh's Chittoor and Krishna districts account for a significant share of India's egg production. The poultry clusters in these regions have created large-scale employment for rural communities while simultaneously ensuring that eggs are affordable and available across southern India. The per-egg production cost in these clusters is among the lowest in the world a result of scale, efficient feed supply chains, and decades of accumulated farmer expertise.

Despite this impressive growth, India's per capita egg consumption of approximately 95 eggs per year in 2023 still falls short of the FAO/WHO recommended 180 eggs per year. The gap between what India produces and what Indians particularly children need to eat for optimal health remains the central challenge for both nutrition policymakers and the poultry industry. Bridging this gap is not just a commercial opportunity; it is a public health imperative (UNICEF 2021).

Progress Measured What the Numbers Show How much has India actually improved since 1989? The data tells an encouraging, if

Per Capita Egg Consumption: India vs World (1989-2024)

Year	India (eggs/ person/ year)	World (eggs/ person/year)
1989	20	120
1990	22	122
1991	24	125
1992	26	128
1993	28	130
1994	30	132
1995	32	135
1996	34	138
1997	36	140
1998	38	142
1999	40	145
2000	42	148
2001	44	150
2002	46	152
2003	48	155
2004	50	158
2005	52	160
2006	54	162
2007	56	165
2008	58	168
2009	60	170
2010	62	172
2011	64	175
2012	66	178
2013	68	180
2014	70	182
2015	72	185
2016	74	188
2017	76	190
2018	78	193
2019	80	195
2020	82	198
2021	84	200
2022	86	203
2023	88	205
2024	90	208

incomplete, story.

Comparing data from NFHS-1 (1992-93) to NFHS-5 (2019-21), stunting among children under five the best single indicator of chronic malnutrition declined across all five southern regions. Kerala's stunting fell from over 26% to around 23%. Tamil Nadu declined from roughly 30% to about 25%. Karnataka, Andhra Pradesh, and Telangana all showed declines, though from higher starting points.

Crucially, states with stronger egg provision in welfare schemes Tamil Nadu, Andhra Pradesh, Telangana have consistently shown better improvement trajectories in child nutrition indicators than states with weaker or inconsistent egg inclusion. While causation is difficult to establish definitively from survey data alone, the correlation is strong and is supported by a growing body of intervention research.

Egg consumption data from the National Nutrition Monitoring Bureau (NNMB) shows that per capita egg intake among rural households in southern India more than doubled between 1990 and 2012, with the most significant increases in Andhra Pradesh and Tamil Nadu the two states with the most consistent egg-inclusive welfare programmes (Swaminathan, S., Vaz, M., & Kurpad, A. V. 2012).

School enrollment figures are similarly positive. According to UDISE+ data, primary school Gross Enrollment Ratios in Tamil Nadu, Kerala, Karnataka, and the Telugu states have been close to or at 100% for several years. The mid-day meal programme with eggs as a central feature in the south is widely credited as one of the key drivers of this achievement (Mukhopadhyay, M., & Parhar, M 2013).

What Still Needs to Be Done

Progress is real, but the work is far from finished. Several challenges demand attention.

First, egg provision in school meals and Anganwadi centres remains uneven. While Tamil Nadu and

Andhra Pradesh serve eggs five days a week, some states and districts still serve eggs only once or twice a week, or not at all, citing cultural concerns or budget constraints. The nutrition evidence overwhelmingly supports daily or near-daily egg provision, and policymakers must find ways to address legitimate cultural sensitivities without compromising the nutritional needs of children.

Second, while primary school enrollment is near-universal, the nutritional quality of mid-day meals needs continuous monitoring. Budget pressures can lead to cost-cutting that disproportionately affects protein-rich items like eggs. Vigilance from nutritionists, parents, civil society, and the poultry industry is necessary to ensure that eggs remain a non-negotiable part of the school meal.

Third, tribal, coastal, and remote rural communities in all five states face disproportionately high malnutrition. These communities need targeted outreach including community-level poultry programmes that put egg production and consumption directly into the hands of the most vulnerable families.

Fourth, there is an exciting opportunity for the poultry industry to move beyond being a mere supplier to welfare schemes, and to become an active partner in nutrition education. Industry bodies like NECC can play a powerful role in communicating the science of egg nutrition to parents, teachers, and community health workers building the cultural acceptance and demand that sustains long-term consumption growth.

Conclusion: The Egg at the Heart of India's Nutrition Story

The story of protein scaling and nutrition in southern India since 1989 is, at its heart, a story of what is possible when science, policy, and production align around a single, powerful food source. Tamil Nadu showed the world that a mid-day meal with an egg can fill a stomach, nourish a brain, and open a school gate. Andhra Pradesh and Telangana demonstrated that a thriving poultry sector and ambitious nutrition policy are natural partners. Kerala and Puducherry proved that empowered communities and good governance multiply the impact of every egg that reaches a child's plate.

The egg is affordable. It is scientifically validated. It is culturally familiar across all five southern states. It is produced at scale, domestically, by millions of Indian farmers. There is, simply put, no better tool for fighting child malnutrition in India and no better investment for the poultry industry than ensuring that every child in India's schools has an egg on their plate.

The next chapter of this story will depend on how well the lessons are remembered, the gaps acknowledged, and the partnerships between government, the nutrition community, and the poultry sector sustained and deepened. India has the production. India has the policy frameworks. What remains is the collective will to see it through one egg at a time.

"India produces over 138 billion eggs a year. Every child in this country could and should have one every single day. The science is settled. The supply is there. The question is only of will."

References:

Iannotti, L. L., Lutter, C. K., Stewart, C. P., Riofrío, C. A. G., Malo, C., Reinhart, G., Palacios, A., Karp, C., Chapnick, M., Cox, K., & Waters, W. F. (2017). Eggs in early complementary feeding and child growth: A randomized controlled trial. Pediatrics, 140(1). https://doi.org/10.1542/PEDS.2016-3459/37999

Longvah, T., Ananthan, R., Bhaskarachary, K., & Venkaiah, K. (2017). National institute of nutrition. Indian Food Composition Tables. 1st ed. Longvah T, editor. Hyderabad: National Institute of Nutrition.

Sen, A. (2001). Consumer expenditure, distribution and poverty: Implications of the NSS 55th round. Economic and Political Weekly, 35(51), 1-38.

Vir, S. C. (2023). The Integrated Child Development Services (ICDS) scheme. In Child, adolescent and woman nutrition in India (pp. 455-514). Routledge.

Kanishka, M. (2025). PM POSHAN: ENSURING SOCIAL & ECONOMIC JUSTICE FOR SCHOOL GOING CHILDREN IN INDIA. Journal on the Rights of the Child of National Law University Odisha, 6(1), 49-67.

Prasad, S., & Kumar, S. (2022). Improving Animal Production, Productivity and Economic Gain to the Farmers through Increasing Coverage of Artificial Insemination in India. Indian Journal of Animal Reproduction, 43(1).

Radharkrishna, R., & Subbarao, K. (Eds.). (1997). India's Public Distribution System: A national and international perspective (Vol. 380). World Bank Publications.

Iips, I. C. F. (2021). National family health survey (NFHS-5): 2019-21 India. Mumbai: International Institute for Population Sciences (IIPS).

Menon, P., Varghese, S. P., & Minimol, K. (2023). Trouncing Poverty through Women's Empowerment in India: A Case of Kerala's Kudumbashree Mission. In The Routledge Handbook of Poverty in the Global South (pp. 259-272). Routledge India.

Jayaraman, R., & Simroth, D. (2015). The Impact of School Lunches on Primary School Enrollment: Evidence from India's Midday Meal Scheme. Scandinavian Journal of Economics, 117(4), 1176-1203. https://doi.org/10.1111/

More references can be given on request

Biosecurity Measures – Standard Operating Procedure (SOP)

Prabakar Ramamoorthy and R.Chanthirasekaran
KEMIN INDUSTRIES SOUTH ASIA PVT LTD

Introduction:

In today's poultry industry, biosecurity is no longer an option—it is a necessity. With increasing disease pressure, intensive production systems, and frequent human and material movement across farms, even a minor lapse in biosecurity can lead to significant health and economic losses. A well-structured biosecurity program acts as the first line of defense, protecting flocks from infectious agents while ensuring sustainable productivity and animal welfare.

This Standard Operating Procedure (SOP) outlines comprehensive on-farm biosecurity measures designed to minimize disease risks at every critical control point—from farm entry and visitor management to shed hygiene, waste disposal, and flock health monitoring. By consistently implementing these **SOPs**, poultry producers can strengthen disease prevention, enhance flock performance, and maintain long-term operational reliability. The key biosecurity measures to be followed at the farm are outlined below.

- A **biosecurity signboard** stating *"Unauthorized Access Restricted"* shall be prominently displayed at the main farm entrance.
- **Lime powder shall be applied at the farm gate/entry point** to ensure that the footwear of all employees and visitors comes into direct contact with the disinfectant barrier upon entry.
- A **visitor register/logbook** shall be maintained to record the name, purpose, and duration of each visit.
- **The farm-visit history of all visitors** shall be collected and verified to ensure they have not visited any suspected or confirmed disease-affected farms within the last **three days**.
- **Detailed farm-visit history** shall be mandatorily recorded for high-risk personnel such as **vaccinators, debeaking teams, grading crews, and service technicians.**
- An **In-Pass/Out-Pass system** shall be maintained to document the movement of all materials, equipment, and supplies entering or leaving the farm.
- **Entry of outside vehicles,** including visitor vehicles, into the farm premises shall be strictly prohibited.
- All **vehicles and equipment permitted to enter the farm** shall be thoroughly cleaned and disinfected using **spray foggers, vehicle dips, and foot dips.**
- **Disinfectant footbaths** shall be provided at the farm gate and at the entrance of each shed, with **regular replacement of disinfectant solutions** to maintain effectiveness.
- **Unnecessary visitor entry shall be avoided.** In unavoidable circumstances, visitors shall be provided with **separate footwear** or **disposable slippers** before entering the premises.
- **Handwashing facilities** shall be installed and maintained at the entrance of each poultry shed.
- During disease outbreaks, **manure removal vehicles and cull bird transport vehicles** shall not be allowed to enter the farm premises.
- **Litter removal shall be avoided** during periods of high mortality or active disease to prevent cross-contamination.
- **All-weather road connectivity** up to the farm premises shall be ensured to facilitate controlled movement without compromising biosecurity.
- A **minimum distance of 50–60 feet** shall be maintained between two sheds to reduce the risk of cross-contamination.
- **Waterlogging within the farm premises shall be prevented** and shed floors shall be maintained at an adequate height above ground level.
- All **water storage tanks**, including drinking water tanks, fogger tanks, spray tanks, and sprinkler tanks, shall be **kept closed at all times.**
- **Entry of stray animals and wild birds shall be strictly restricted.** Birds subjected to post-mortem examination shall be disposed of hygienically in designated disposal pits.
- **Eggs shall be stored in a separate godown located outside the farm premises** to avoid entry of external vehicles into the biosecure zone.
- **Paper egg trays** shall be preferred

during disease outbreaks to minimize contamination and avoid reuse.

- **Summer management practices** shall be implemented rigorously without compromise to reduce heat stress and immune suppression.
- **Feed and medicines** shall be stored under appropriate conditions to prevent moisture damage, contamination, spillage, and deterioration of quality.
- Following flock culling, **thorough cleaning, decontamination, and disinfection of sheds and equipment** shall be carried out as per protocol.
- An adequate **"shed rest" period** shall be observed before placement of a new flock.
- **Vaccination programs** shall be implemented strictly in accordance with the recommendations of breeders and poultry consultants.
- **Feed silos, conveyor feeding systems, and feeders** shall be cleaned and sanitized at regular intervals as per standard protocols.
- **Aerial disinfection** inside sheds shall be carried out **2–3 times per week**, depending on the disease risk in and around the farm.
- **Disinfectant spraying (e.g., phenols, bleaching compounds)** shall be performed regularly around each shed up to a distance of **6–8 feet** from the shed walls.
- Farm personnel shall **visit young and healthy flocks first**, followed by older flocks, and **diseased flocks last**.
- **Infected birds and contaminated materials** shall be kept strictly separate from healthy birds, and proper **hand and foot sanitation** shall be followed before entering healthy sheds.
- **Medicines and vaccines** shall be routinely checked for expiry or near-expiry and managed accordingly.
- **Sudden changes in feed or environmental conditions** shall be avoided to minimize stress.
- Farm personnel shall **avoid direct contact with secretions and excretions** of affected flocks.
- Entry of **wild birds, domestic animals, pets, and local birds** into the farm premises shall be completely prevented.
- **Biofilm formation in nipple drinker lines** shall be routinely checked and removed using appropriate water sanitizers.
- **Drinking water quality** shall be periodically tested for **pH, E. coli contamination, hardness, and ORP**, and suitable water acidifiers and sanitizers shall be used as required.
- **Mycotoxin risks** shall be managed through the use of high-quality toxin binders to prevent immunosuppression.
- **Used vaccine vials and biomedical waste** shall not be discarded within or around the farm and shall be disposed of safely away from the premises.
- **Stress-reduction strategies**, including supplementation with **Organic Chromium, Vitamin C, and 1,3 β glucans**, may be used to enhance immune resilience.
- Birds shall be **monitored daily for abnormal signs and symptoms** to minimize mortality and production losses.
- **Routine disease monitoring**, including post-mortem examinations and periodic serological antibody assays, shall be conducted to assess flock health and immune status.
- **Farm veterinarians or farm managers** shall be immediately informed in case of abnormal mortality or disease suspicion.
- **Flies, insects (including beetles), rats, and mice** shall be controlled effectively through an integrated pest management program.
- **Dead birds shall never be kept inside sheds** and shall be removed immediately.
- Carcasses shall be disposed of by **incineration or burial in designated disposal pits located at least 200 yards away** from the farm premises.
- **Post-mortem rooms and examination areas** shall be disinfected thoroughly after use, and lime powder shall be applied as appropriate.
- **Feed bags** shall be stored in crates with adequate spacing and ventilation.
- **FIFO (First-In, First-Out)** principles shall be strictly followed for all materials, including feed, medicines, and vaccines.
- **Hand sanitizers** shall be available inside sheds for immediate use after bird handling.
- After handling birds or coming into contact with secretions or excretions, **handlers shall wash hands with soap and apply hand sanitizer.**
- **Rearing of country birds or free-range birds, especially ducks,** shall be strictly prohibited in and around the farm premises.
- Conclusion
- A well-planned farm and management system requires **strict adherence to Standard Operating Procedures covering shed design, biosecurity, rearing practices, and record-keeping.** Consistent implementation of these biosecurity measures ensures **optimal bird health, uniform productivity, reduced mortality, and reliable operational and research outcomes.**

Physiological Adaptation to Heat Stress: Targeting Metabolic and Cellular Needs in Poultry

Heat stress in poultry extends beyond an environmental challenge, characterised as a complex physiological disruption involving metabolic imbalance, oxidative stress, and organ dysfunction. While external cooling strategies help alleviate thermal load, they do not fully address the internal biological strain experienced by the bird.

Therefore, effective mitigation must align with the bird's physiological needs by supporting cellular homeostasis, metabolic efficiency, antioxidant balance, and organ functionality. These internal disruptions highlight that effective heat stress management must go beyond environmental control and directly address the bird's physiological and cellular requirements.

What Birds Actually Need Under Heat Stress

1. Metabolic Support at the Cellular Level

Heat stress induces profound alterations in cellular metabolism, primarily driven by reduced voluntary feed intake coupled with an increase in basal maintenance energy requirements. This creates a paradoxical situation where nutrient intake declines, but energy demand for thermoregulation and cellular homeostasis rises.

At the metabolic level, heat-stressed birds demonstrate:

- A shift in nutrient partitioning from productive functions (growth, egg synthesis) toward maintenance and survival
- Suppression of mitochondrial oxidative phosphorylation efficiency, leading to reduced ATP yield per unit substrate
- Increased reliance on glycolytic pathways, which are less energy-efficient and contribute to metabolic acidosis
- Altered endocrine responses, including elevated corticosterone, promoting protein catabolism

Mitochondria, being the central regulators of cellular energy metabolism, are particularly vulnerable to thermal stress. Heat-induced mitochondrial dysfunction leads to:

- Reduced activity of key enzymes in the tricarboxylic acid (TCA) cycle
- Impaired electron transport chain (ETC) efficiency
- Increased electron leakage, further contributing to oxidative stress

Collectively, these changes result in a negative energy balance, even when dietary formulations meet standard nutritional specifications under thermoneutral conditions.

2. Replenishment of Antioxidant Systems

Heat stress is strongly associated with the excessive production of reactive oxygen species (ROS), resulting in a state of oxidative stress where the generation of free radicals exceeds the bird's intrinsic antioxidant capacity. This imbalance disrupts cellular homeostasis and is a key factor limiting performance under thermal stress.

At the cellular level, oxidative stress manifests as:

- Lipid peroxidation, compromising membrane integrity and fluidity
- Protein oxidation and denaturation, impairing enzymatic and structural functions
- DNA damage, affecting cell replication and viability

These changes collectively reduce cellular efficiency, particularly in metabolically active tissues ultimately impacting nutrient absorption, metabolism, and product quality.

Antioxidant Defense Systems

The avian antioxidant system comprises both enzymatic and non-enzymatic components, working synergistically to maintain intracellular redox balance:

- **Non-enzymatic antioxidants:**
  - **Vitamin E** (α-tocopherol): A lipid-soluble antioxidant that protects cell membranes from lipid peroxidation
  - **Vitamin C** (ascorbic acid): A water-soluble antioxidant that scavenges free radicals and regenerates oxidized Vitamin E
- **Enzymatic antioxidants:**
  - **Superoxide dismutase (SOD)**: Converts superoxide radicals into hydrogen peroxide
  - **Glutathione peroxidase (GPx)**: Reduces hydrogen peroxide and lipid peroxides
  - **Catalase:** Decomposes hydrogen peroxide into water and oxygen

Under heat stress, the activity of these systems is often **insufficient or depleted**, necessitating targeted nutritional support.

To effectively mitigate oxidative stress, strategies should focus on strengthening both endogenous **antioxidant enzyme systems and exogenous antioxidant supply:**

- **Augmentation of antioxidant reserves:** Ensuring adequate availability of key antioxidants to neutralize excess ROS
- **Regeneration of antioxidant cycles:** Supporting the recycling of oxidized antioxidants (e.g., Vitamin C regenerating Vitamin E), thereby sustaining antioxidant efficiency
- Maintenance of intracellular redox balance:
- Preventing a shift toward a pro-oxidant state that can impair metabolic and immune functions
- Protection of high-turnover tissues: Safeguarding intestinal mucosa and muscle cells, which are particularly vulnerable to oxidative damage during heat stress

Optimizing antioxidant status under heat stress conditions leads to:

Stabilization of cell membrane integrity Preservation of enzyme activity and metabolic functions Enhanced immune competence and stress resilience Better meat quality and shelf life through reduced lipid oxidation

3. Support for Efficient Energy Pathways

Heat stress induces significant alterations in endocrine and metabolic responses, directly impacting energy utilization and nutrient efficiency. One of the primary hormonal changes includes elevated corticosterone levels, which promotes protein catabolism and diverts nutrients away from productive functions. In addition, heat-stressed birds exhibit:

- Reduced efficiency of carbohydrate and lipid metabolism, limiting available energy
- Disruption in electrolyte balance, impairing enzyme activity and cellular functions
- Altered acid–base equilibrium, particularly due to respiratory alkalosis from panting

These changes collectively compromise the efficiency of energy generation and utilization at the cellular level.

To restore metabolic efficiency under heat stress, strategies should focus on:

- Maintaining electrolyte and acid–base balance: Adequate levels of Na^+, K^+, and Cl^- are essential to support enzymatic reactions and cellular homeostasis
- Supporting energy metabolism pathways: Enhancing the efficiency of glucose utilization and lipid oxidation to ensure sustained energy availability
- Optimizing cellular energy transfer systems: Supporting intracellular mechanisms involved in electron transport and ATP generation, which play a key role in maintaining metabolic efficiency under stress conditions
- Minimizing protein catabolism: Improving nutrient bioavailability to reduce reliance on body protein reserves for energy
- Heat stress can be viewed as a condition of impaired energy transfer efficiency, where nutrient utilization is compromised despite adequate dietary supply. Supporting key intracellular energy systems—particularly those involved in mitochondrial electron transport helps maintain ATP generation and overall metabolic stability.

4. Protection and Functional Support of Vital Organs

Heat stress imposes a disproportionate physiological burden on key visceral organs, primarily due to sustained metabolic strain, altered blood flow distribution, and oxidative damage. These organs play central roles in maintaining systemic homeostasis, and their functional compromise directly translates into production losses.

Hepatic function : The liver acts as the primary metabolic hub regulating carbohydrate, lipid, and protein metabolism. Under heat stress, reduced feed intake and altered lipid mobilization increase the risk of hepatic lipidosis and oxidative damage.

Support strategy: Enhancement of lipid metabolism and detoxification pathways to maintain metabolic efficiency and prevent fat accumulation.

Cardiovascular stability:
Heat stress challenges circulatory efficiency, affecting oxygen delivery and nutrient transport

Support strategy: Maintenance of optimal circulatory dynamics to ensure adequate tissue perfusion and oxygenation under stress conditions.

Renal function (Kidneys):
Kidneys play a critical role in electrolyte balance and osmotic regulation. Heat stress, coupled with dehydration, increases the burden on renal function.

Support strategy: Preservation of electrolyte balance and excretory efficiency to prevent metabolic disturbances.

Enhanced organ integrity and functional efficiency, results in reduced prevalence of metabolic syndromes and stress-induced pathophysiological conditions

Conclusion

When cellular metabolism, antioxidant defenses, energy pathways, and organ function are collectively supported, birds exhibit enhanced physiological stability under stress conditions. This integrated resilience not only improves survivability and livability but also enables birds to sustain performance and express their true genetic potential—even under extreme environmental and metabolic challenges.

Postbiotics: A Promising Alternative to Antibiotic Growth Promoters in Poultry

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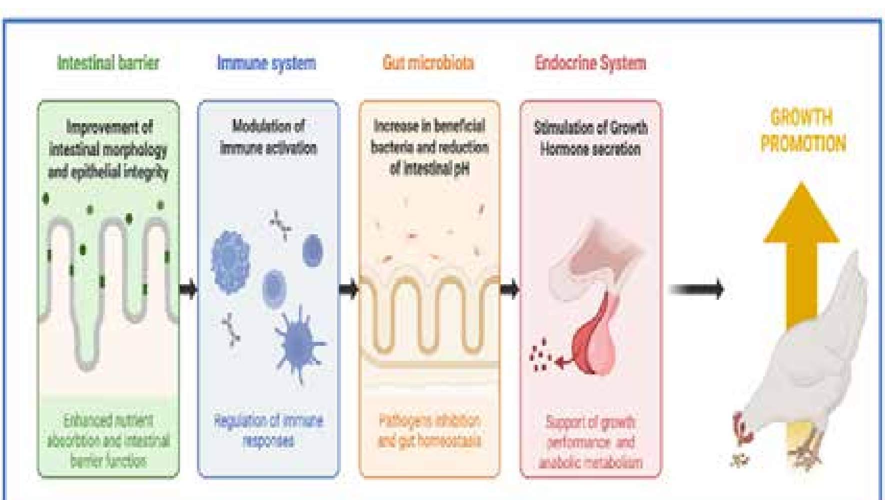
The increasing incidence of antimicrobial resistance in microbial populations has intensified research into natural alternatives to antibiotics for both human and animal health. Among these alternatives, postbiotics have emerged as a promising option. Postbiotics are preparations of inactivated microorganisms and their bioactive components that confer health benefits to the host. Unlike probiotics, they do not contain live microorganisms, making them more stable during feed processing and storage. Postbiotics have been shown to possess antimicrobial, antioxidant, anti-inflammatory, and immunomodulatory properties. In poultry production, they contribute to improved gut health, enhanced immune response, better growth performance, and reduced mortality. This article highlights the definition, sources, mechanisms of action, and potential benefits of postbiotics in poultry nutrition as a safe and sustainable alternative to antibiotic growth promoters.

V. Preethi

Introduction

Traditionally, probiotics have been used in poultry nutrition to promote gut health and improve performance. For many years, the viability of microorganisms was considered essential for probiotics to exert beneficial effects. However, recent studies indicate that even non-viable microbial cells, their structural components, and their metabolites can provide health benefits.To address this concept, several terms such as non-viable probiotics, heat-killed probiotics, paraprobiotics, and postbiotics have been introduced. In 2021, the International Scientific Association of Probiotics and Prebiotics (ISAPP) defined postbiotics as:"A preparation of inanimate microorganisms and/or their components that confers a health benefit on the host." This definition provides clarity for researchers, industry professionals, and regulatory authorities regarding the use and potential benefits of postbiotics in animal nutrition.



Definition

The term postbiotic is derived from the Greek words post meaning "after" and bios meaning "life." Postbiotics therefore refer to bioactive compounds produced during the metabolic activity of microorganisms after the cells are no longer viable.These substances include microbial metabolites, cell wall components, enzymes, peptides, and organic acids that can positively influence host health. Postbiotics share many functional properties with probiotics but differ in that they do not contain living microorganisms. Examples of postbiotic metabolites include bacteriocins, short-chain fatty acids, peptides, and proteins that help maintain intestinal health by lowering gut pH and inhibiting pathogenic microorganisms.

Postbiotic Producing Microorganisms

Various beneficial microorganisms are capable of producing postbiotics. Commonly reported sources include species of Lactobacillus, Bifidobacterium, and Bacillus, as well as yeast species such as Saccharomyces cerevisiae.Among these, Lactobacillus plantarum is widely studied for its ability to produce beneficial metabolites. These

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microorganisms generate postbiotics during fermentation processes, producing compounds that improve gut microbiota balance and enhance host health.

Postbiotics in Poultry Production

Postbiotics are gaining attention in poultry nutrition due to their stability and safety compared with probiotics. Since they do not contain live cells, they are not affected by feed processing methods such as pelleting.One example is Safmannan, a postbiotic derived from Saccharomyces cerevisiae. This product contains two major bioactive components:

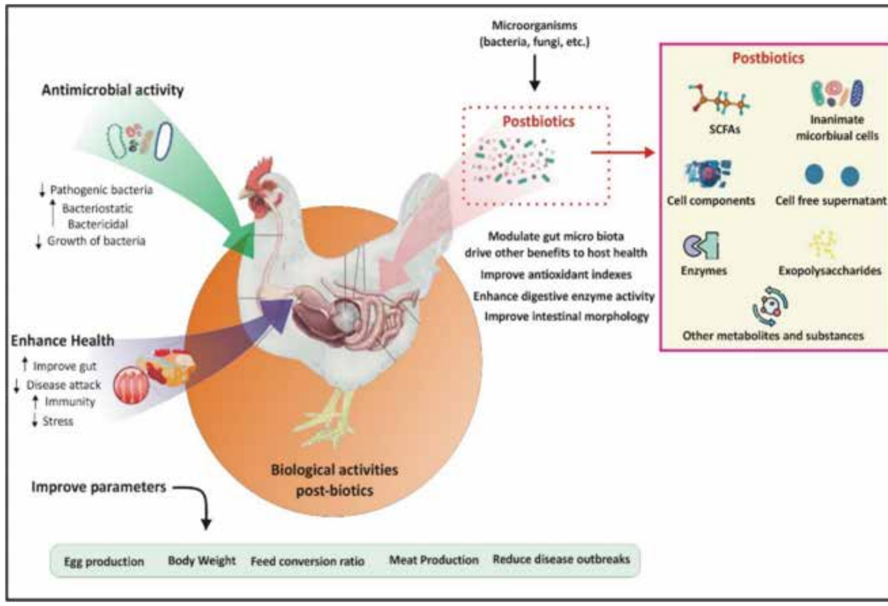
- **Mannans**, which help reduce pathogen colonization by binding harmful bacteria such as Salmonella and E. coli in the intestinal tract.
- **β-glucans**, which stimulate the immune system by activating immune cell receptors.

Research has demonstrated that such postbiotic products improve gut microbiota, enhance immune function, and increase productivity in poultry.

Need for Postbiotics in Poultry Nutrition

For decades, antibiotic growth promoters were widely used in poultry production to improve growth rate, feed efficiency, and disease prevention. However, the continuous use of antibiotics has contributed to the development of antimicrobial resistance and the presence of drug residues in animal products.

These concerns have led to global efforts to reduce or eliminate antibiotic use in livestock production. As a result, researchers are focusing on alternative strategies such as probiotics, prebiotics, and postbiotics to maintain poultry health and productivity without compromising food safety.



Benefits of Postbiotics in Poultry

Postbiotics provide several benefits in poultry production, including:

- Improved feed conversion efficiency
- Increased body weight gain
- Enhanced immune response
- Reduced intestinal infections
- Improved gut microbiota balance
- Reduced inflammation and oxidative stress
- Lower mortality rates

These advantages make postbiotics a promising nutritional strategy for sustainable poultry production.

Mechanism of Action

Postbiotics exert their beneficial effects through multiple biological mechanisms:

1. Immunomodulatory effects – stimulation of immune cells and cytokine production.
2. Antimicrobial activity – inhibition of pathogenic bacteria through organic acids and bacteriocins.
3. Gut barrier protection – strengthening intestinal epithelial cells and improving gut morphology.
4. Anti-inflammatory effects – reduction of inflammatory responses in the intestine.
5. Antioxidant properties – neutralization of reactive oxygen species.

These combined mechanisms contribute to improved gut health and overall performance in poultry.

Future Applications

Postbiotics have significant potential in improving poultry production and animal health. Their stability, long shelf life, and safety make them suitable for large-scale commercial feed applications. Future research may focus on combining postbiotics with prebiotics or probiotics to enhance their synergistic effects on gut microbiota and immune response.

Conclusion

Postbiotics represent an innovative approach in poultry nutrition and health management. As antimicrobial resistance continues to pose a global challenge, postbiotics offer a promising alternative to antibiotic growth promoters. By improving gut health, enhancing immune function, and supporting better growth performance, postbiotics can contribute to sustainable and safe poultry production systems. Continued research will further expand their applications and strengthen their role in modern poultry nutrition.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