# Poultry Fortune

June 2024

Production • Nutrition • Management • Marketing

Annual Subscription: Rs 800 Foreign \$ 100

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Inside...

#### Editorial:

CLFMA & other bodies of the industry should work to promote production of Soya, Maize and other Grains in India



Aviagen India Celebrates 10 Years of Collaboration with IB Group



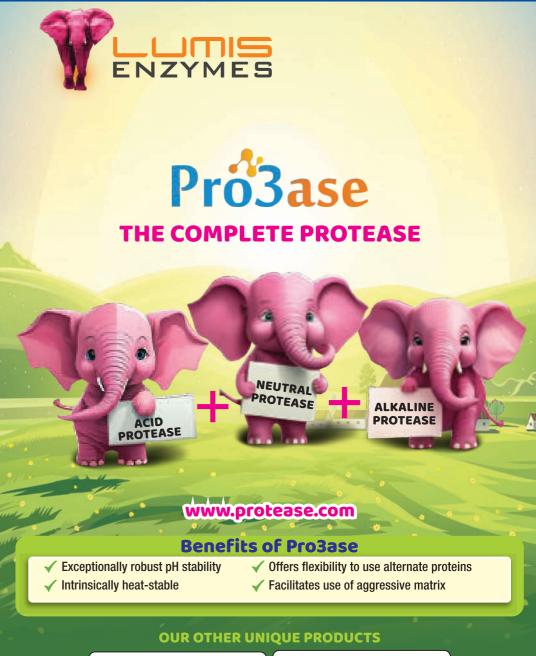
Combating Protein Deficiency: Poultry Protein's Vital Role ..



Nandus Stand by young Badminton players Prerana Seth, Geto Sora

Alternative feeding approaches to improve production and health in poultry

Importance of litter quality in deep litter houses





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Peak Weekly Production

Feed Cost/Egg : Rs.3.09 @Rs.26/KG



: 96%

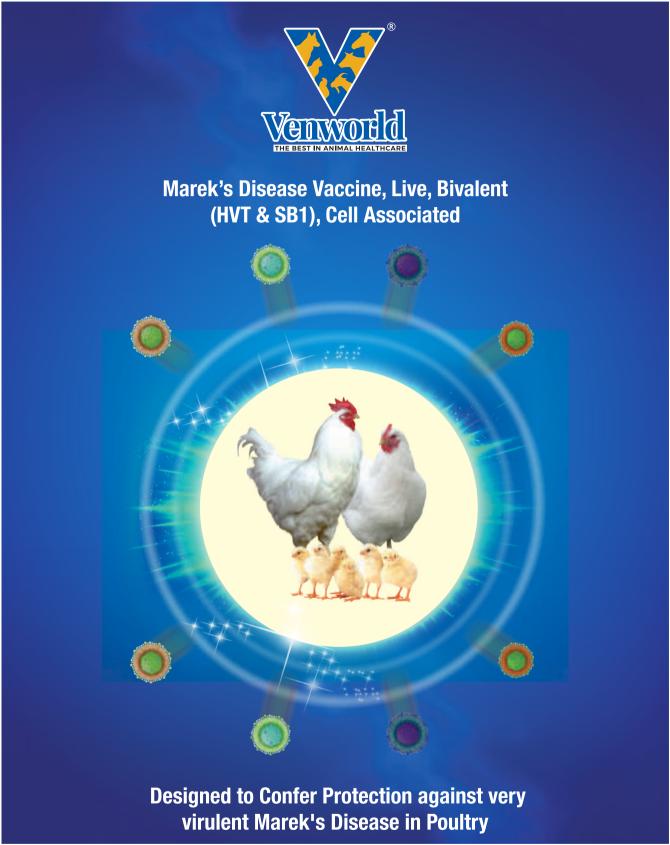


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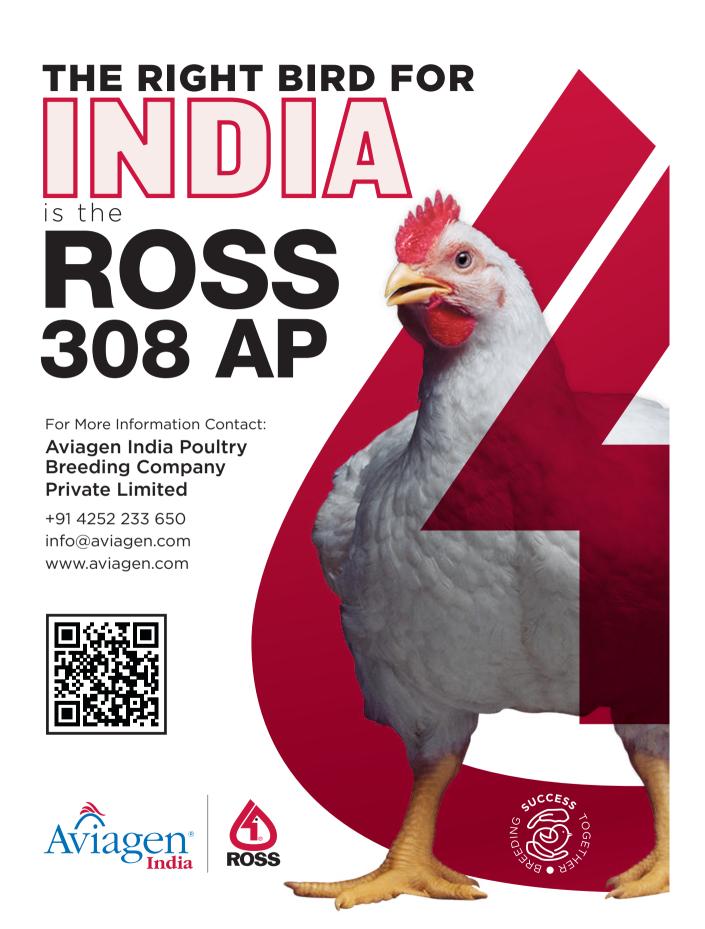


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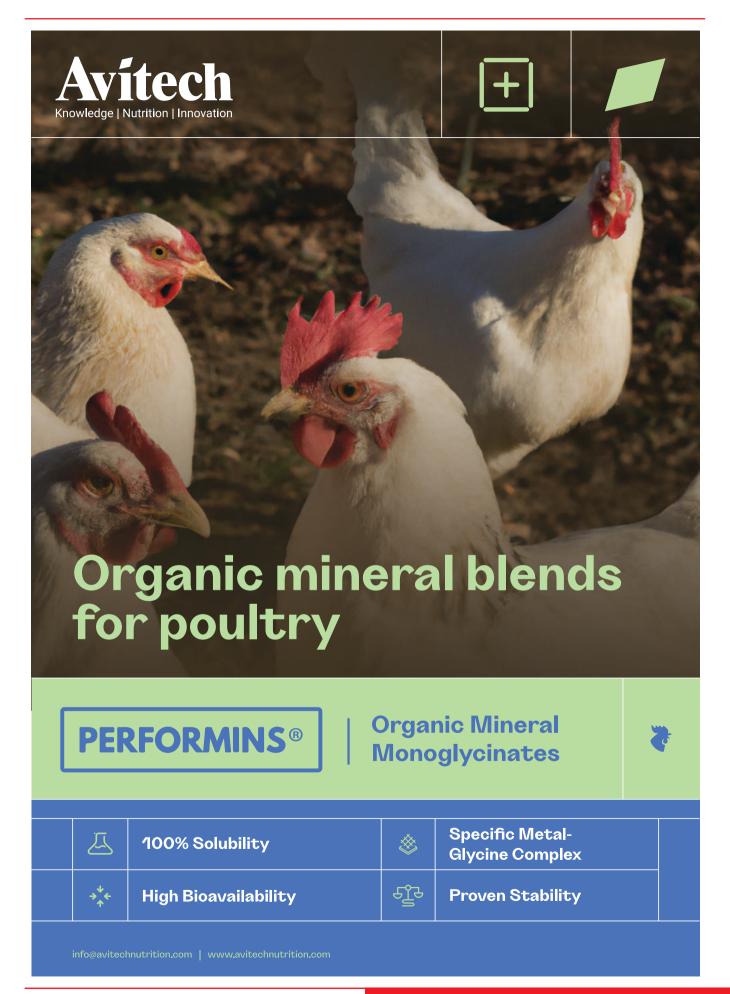
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### **Poultry Fortune**

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- Editor



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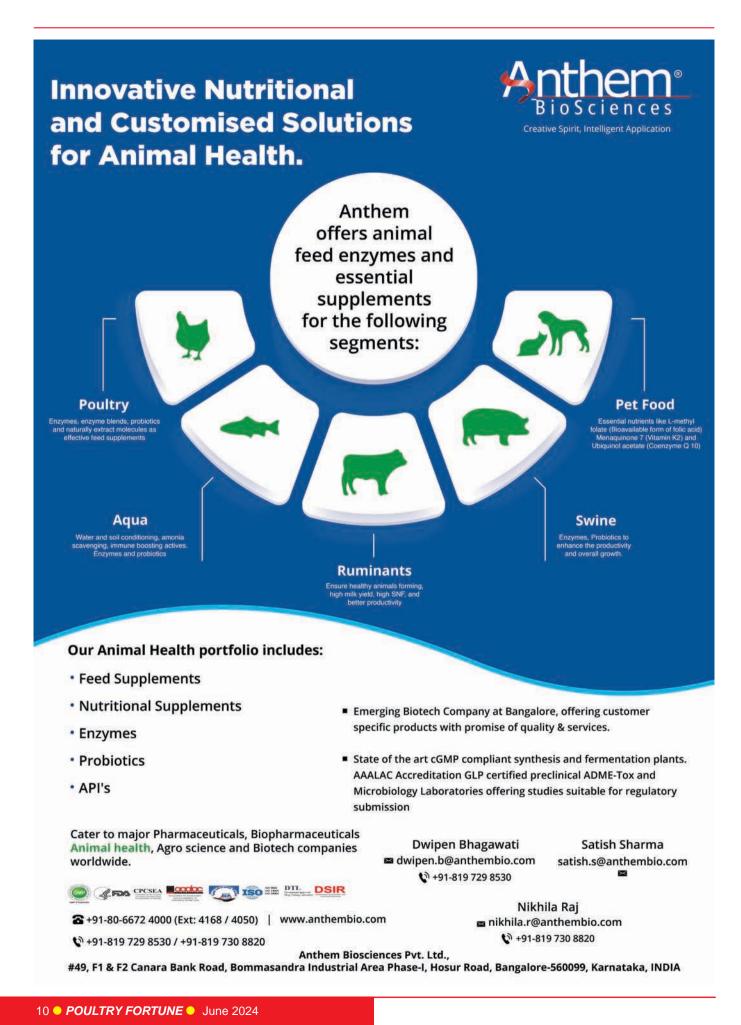
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# CLFMA & other bodies of the industry should work to promote production of Soya, Maize and other Grains in India

In broiler production – quality feed, chicks and water are all given more importance to maximize the profits. Litter management in broiler houses is a crucial aspect of poultry farming that's sometimes overlooked. Proper litter management is crucial for maintaining bird health, preventing disease outbreaks, and ensuring optimal growth rates. Litter management also given emphasis because birds are in continuous contact with litter. Litter is defined as the combination of bedding material, excreta, feathers, wasted feed and wasted water



Dear Readers,

The June 2024 issue of Poultry Fortune is in your hands. *In the news section you may find news about* ...

Indian poultry industry is facing the issue of high feed cost due to increase in the prices of raw

materials for the feed like Maize, Soyabean etc. About 70 per cent of expenditure in poultry farming is on feed. If feed raw materials are available in sufficient quantity at a reasonable price, the layer and broiler farmers can run the farms comfortably and profitably. There are some cases that farmers are unable to use all the specified raw materials in the feed due to high raw material prices which will impact on the quality of eggs and chicken meat, and productivity will also come down.

There is an urgent need of making feed raw materials available in sufficient quantity and that is possible when Maize / Corn and Soyabean production is increased in India. USA is producing 390 Million Metric Tonnes of Corn annually with one crop per year, Brazil 120 MMT and India only about 30 MMT annually. With this small production of 30 MMT Maize in the country, can you meet its requirement by poultry and other industries in the country? We should take the figures of Corn production in USA as an example and take measures to increase maize production in India.

CLFMA of India being the body basically for the livestock feed industry, along with PFI and other bodies of poultry industry should discuss with

Union and State Agriculture Ministries, Universities and Research Institutes on Maize, Soyabean and other needed grains production. Instead of networking meetings for some time, the bodies of the poultry industry should focus on reducing cost of production of egg and chicken through effective steps like increasing production of grains and encourage agriculture farmers to produce more Maize, Soyabean and other grains.

.....

Aviagen India is thrilled to commemorate IB Group's decade-long collaboration and their remarkable milestone of acquiring 100,000 *Ross 308 AP* Grand Parent stock in a single financial year and becoming one among the top 5 high volume GP stock customers in Asia. In 2015, Aviagen introduced *Ross 308 AP* GP birds, known for their exceptional performance in diverse climate conditions. Operating from the heart of India, IB Group now distributes high-quality Ross broiler chicks in 22 states, providing reliable, nutritious, affordable and sustainable protein sources for Indian families nationwide.

Avitech Nutrition and PhyGeno hosted their first-ever Animal Nutrition Technical Seminar in Dhaka, Bangladesh. The event brought together key stakeholders from the feed industry, including leading nutritionists, feed millers and distributors from across the country. The evening commenced with a welcome address from Mr Rahul Kapur, Managing Director of Avitech Nutrition, who provided an overview of the Keggfarms Group companies. Mr Kapur emphasised the pivotal role of science and innovation as the driving force behind the group's advancements.

Contd on next page



#### **Poultry Fortune**

#### **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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EDITORIAL From the Editor...

Glamac International recently convened its annual conference amidst the enchanting backdrop of Darjeeling. From the 5th to the 9th of April 2024, the entire Aqua and Poultry team comprising members from diverse regions spanning India and Nepal, gathered at the Central Heritage Hotel for an unforgettable experience of camaraderie, learning and celebration. Darjeeling, with its towering peaks and verdant valleys, served as an idyllic setting for annual gathering. This quaint town, renowned for its iconic toy train and world-famous tea gardens, provided a serene and inspiring environment for reflection and collaboration.

**IB** Group emerges as Top 5 Poultry companies in Asia! In a resounding testament to its remarkable growth trajectory, IB Group, in collaboration with Aviagen, announced a significant milestone: the acquisition of 100,000 Grandparent Poultry stock in a single financial year. This milestone not only underscores IB Group's ascendancy as a leading player in the poultry industry, but also highlights its steadfast commitment to sustainable growth and innovation.

**Immeureka,** a startup in the poultry sector, conducted a technical seminar on 26 and 27 April 2024, at Kanina, Haryana and Zirakpur, Punjab. The main objective of the conference was to provide veterinarians, poultry farmers and feed millers with the necessary knowledge of two key topics: *Mycotoxin and Pesticide Residue Management in Poultry* and *Premix for Laying Birds as a One-Stop Solution*.

Mr Naveen Pasupathy says, at Nandus Foods, we believe in the power of perseverance, stamina & endurance – qualities that are integral to both sports and a healthy lifestyle. Nandus is happy and proud to announce its partnership with Badminton & Anup Sridhar Badminton Academy, supporting the young rising stars – Ms Prerana Seth, 18 years, national champion and Mr Geto Sora, 8 years, national champion, in their journey to become national and international Badminton champions.

In a concerted effort to address the pressing issue of protein deficiency among the Indian populace, the Poultry Federation of India with support from USA Poultry and Eggs Export Council recently hosted a session held on 18th May 2024 in New Delhi, which convened leading industry experts to underscore the indispensable role of poultry protein in addressing India's nutritional challenges. With participation from renowned industry experts, this served as a platform to advocate for enhanced protein intake, particularly through poultry products like chicken, duck, turkey and eggs.

Rajeev Murthy has joined NOVUS as the new senior director & managing director of Asia Pacific. Murthy will shape and steer the intelligent nutrition company's strategy in this vital market. Rajeev comes to NOVUS with more than 25 years of industry experience, says Sr. Vice President and Chief Commercial Officer Ed Galo. Along with his positive track record for driving commercial success, employee engagement and talent development, they are confident in his ability to elevate NOVUS presence and enhance their strategic initiatives across the Asia Pacific region.

Venkateshwara BV Bio- Corp and Nature Care Manufacturing Industry Ltd, Bangladesh organized two Technical seminars for commercial Layer Farmers on 22 April 2024 at Dhamrai and 23 April 2024 at Mawna, Dhaka, Bangladesh. This technical seminar was attended by layer farmers of Dhamrai, Mawna and surrounding areas. Mr Joyanta Kumar Deb, Managing Director, Nature Care Manufacturing Industry Ltd, Dr Md. Emranul Haq Mondal Shapon, were the Chief Guests at the seminar.

**Dr Shirish Nigam** said that in today's world, the relationship between humans, animals, plants and their shared environment has become very close. With the global population on the rise, the interaction has intensified. As a result, more people live in close contact with wild animals and domestic animals which makes humans more susceptible to the diseases that are caused by the contact of animals.

Current Challenges for Indian Poultry Industry and how TN approach is helpful, authored by Dr Shiva Kumar, discussed that poultry derived food products are the most important animal protein sources globally. India is the third-largest egg producer and the fourth-largest chicken producer in the world. Poultry meat and eggs are the most important animal protein sources available and a significant increase is forecasted in demand.

CLFMA of India organised seminars on Surging Ahead Towards the Next Level: Contributing to the Five Trillion Economy, and Feed Ingredients: Supply, Price and Alternatives at Coimbatore, Ludhiana and Pune in May 2024. CLFMA Chairman Mr Suresh Deora, Dr Niteen V. Patil, Vice Chancellor of MAFSU and others addressed the seminar. Dr Dinesh Bhosale, Mr R. Ramkutty, Mr Daljeet Singh Gill, Dr A.P.S. Sethi, Mr Sanjit Padhi, Dr N.V. Kurkure, Mr Reece H. Cannady, Mr Divya Kumar Gulati and others took active part.

In the Articles section, Alternative feeding approaches to improve production and health in Poultry, authored by S. Parthiban, P. Raja, M. Parthiban and K. Reshma discussed that demand for poultry meat has increased tremendously over past two decades to meet growing human population demand and their consumption preference. Nutrition and gut health is essential for optimum performance, feed efficiency and overall health of poultry. Type and composition of feed in poultry nutrition is the most critical factor influences the gut microflora. Researches evidenced that varying microbial community raise in association with different feed ingredients like Corn and Sorghum-based diet increased *Enterococcus* sp, barley-based diet increased *Lactobacillus* sp, oat increased *Escherichia* sp and *Lactococcus* s, and rye-based diet increased the *Streptococcus* sp.

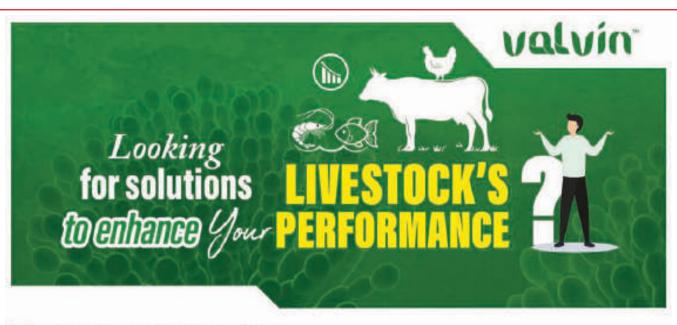
Another Article, **Importance of Litter Quality in Deep Litter Houses**, authored by Dr K. Prashanth Kumar said that in broiler production quality feed, chicks and water are all given more importance to maximize the profits. Litter management in broiler houses is a crucial aspect of poultry farming that's sometimes overlooked. Proper litter management is crucial for maintaining bird health, preventing disease outbreaks, and ensuring optimal growth rates. Litter management also given emphasis because birds are in continuous contact with litter. Litter is defined as the combination of bedding material, excreta, feathers, wasted feed and wasted water.

Another Article, *Sensory Evaluation Method for Poultry Farm Conditions*, authored by Dr Nilay Deshpande discussed that poultry farmers understand the importance of their birds' health for successful production. Daily tasks like feeding and watering present a perfect opportunity to inspect the flock's well-being. By using their senses, farmers can become adept at identifying signs of illness and preparing for potential problems.

M.A.Nazeer Editor & Publisher Poultry Fortune

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### Aviagen India Celebrates 10 Years of Collaboration with IB Group: 100,000 Grandparent Poultry Stock Achieved

May 24, 2024 – Udumalpet, India: Aviagen India is thrilled to commemorate IB Group's decade-long collaboration and their remarkable milestone of acquiring 100,000 Ross 308 AP Grand Parent (GP) stock in a single financial year and becoming one among the top 5 high volume GP stock customers in Asia.

### Decade of progress and expansion

The collaboration between IB Group and Aviagen has been a testament to success and continuous growth. Since 2014, Aviagen has been supplying Parent Stock (PS) and Grandparent Stock (GP) chickens to IB Group, which initially served 13 states across India. Starting with 40,000 Ross 308 GPs, IB Group has evolved into one of India's leading poultry integrators.

In 2015, Aviagen introduced Ross 308 AP GP birds, known for their exceptional performance in diverse climate conditions. Operating from the heart of India, IB Group now distributes high-quality Ross broiler chicks in 22 states providing reliable, nutritious, affordable, and sustainable protein sources for Indian families nationwide.

### Relationship marked by collaboration and support

Throughout the past decade, Aviagen's local and Asian customer service teams have worked closely with IB Group management



and staff, resulting in yearon-year enhancements in performance and welfare across all stages of Ross 308 AP breeding, from GP and PS to broilers, excelling in various weather conditions and seasons across India.

"Aviagen remains dedicated to the success of IB Group and our customers across the continent. Our India, Asia and global support teams have enjoyed working side-by-side with them over the years. We extend our warmest congratulations on this significant achievement and look forward to supporting their future expansion and accomplishments in the coming decade," commented Dr Ramakrishna Balasubramian, Business Manager, Aviagen India.

#### **About IB Group**

IB Group is India's foremost protein-centric Agribusiness conglomerate, headquartered in Chhattisgarh's Rajnandgaon district. With roots tracing back to 1985, IB Group's diverse business verticals encompass poultry, fast-moving consumer groups (FMCG), dairy, livestock feed, solvents, specialized pet food and hospitality.

### Pioneers of modern poultry farming

Introducing modern environmentally controlled (EC) broiler farming in all parts of the country, **IB** Group champions automation and technology as key drivers of India's poultry industry. Under the banner of "Parivartan," the company leads a flagship socio-economic initiative aimed at assisting poultry farmers in upgrading their farming infrastructure to modern environmentally controlled houses equipped with automated technology, thereby doubling farmers' income and elevating meat quality. More than 1,300 farmers are successfully operating Parivartan EC houses, with numbers steadily increasing.

### Champions of industry sustainability

Since 2019, IB Group has spearheaded the Parivartan GEN NXT initiative, attracting young Indians to take up technology-driven broiler farming.

Working with more than 21,000 contract farmers and supported by 172 I branch offices, they consistently deliver top-tier performance across all segments, from GP and PS to broiler production and chick sales.

#### **About Aviagen**

Since 1923, Aviagen has been a preferred global poultry breeding company with a mission to help its customers -- the world's chicken meat producers -- supply sustainable, affordable and nutritious protein to their growing communities. Putting into practice its corporate value of "Breeding for Welfare and Sustainability," Aviagen implements efficiencies that make commercial chicken production environmentally and socially responsible and economically beneficial to producers, while at the same time promoting bird performance, health and welfare.

To meet varied market demands, Aviagen offers a full portfolio of breeding stock under the Arbor Acres, Indian River and Ross brand names. The Rowan Range and Specialty Males target slower-growing and other niche market needs. Aviagen is based in Huntsville, Alabama, US., with operations across the UK, Europe, Turkey, Latin America, India, Australia, New Zealand, Africa and the US, and joint ventures in Asia. The company employs close to 8,000 people, and serves customers in 100 countries.



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### Venkateshwara B V Bio-Corp organises Technical Seminar on "Layer Management & Nutrition with Eggxtra 5% Composite Premix" in Bangladesh



Dr Sanjay Deshpande addressing layer farmers

Venkateshwara BV Bio-Corp Pvt Ltd India and Nature Care Manufacturing Industry Ltd Bangladesh organized Two Technical seminars for commercial Layer Farmers on 22<sup>nd</sup> April, 2024 at Dhamraiand 23rd April 2024 at Mawna Dhaka Bangladesh. This technical seminar was attended by layer farmers of Dhamrai, Mawnaand surrounding area. Mr Joyanta Kumar Deb, (Managing Director, Nature Care Manufacturing Industry Ltd) Dr Md. Emranul Haq Mondal Shapon (Consultant Poultry & Dairy Feed Formulation) were Chief Guests of seminar.

Dr Sanjay Deshpande, Venkateshwara BV Bio-Corp Pvt Ltd was spoken for the seminar and explained in detail about the "Commercial Layers Management" in all aspects and importance of balanced nutrition to improve productivity in commercial layers with optimization of production cost. Venkys 5% Eggxtra Composite Premix provide very easy solution to produce the balanced feed for commercial layers as per the requirement of birds. During his presentation, he advised to be watchful about quality parameters to be considered while selecting the different feed ingredients. The excerpts from his presentation can be summarized as below.

- Importance of brooding management as a foundation for preparing better pullets.
- Importance of body weight monitoring in rearing period and its impact on laying productivity.
- Benefits of good uniformity for good egg production and consistency as well.
- Early Laying Nutrition to maximize peak production.
- Benefits of Phase feeding – to reduce the overall egg production cost and to provide the nutri-

- ents as per requirement of the birds age, egg production, egg weight, egg shell quality etc.
- Importance of Water Management and its impact on gut health.
- Maintaining the egg shell quality during post peak production period.
- Proper summer management practices to minimize the heat stress

- and its impact on egg production and mortality
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   Premix is capable of
   optimizing the cost with
   highest efficiency at
   farm level.

**Dr Sanjay Deshpande** answered the queries of the attendees related to the subject and other technical queries regarding Farm Management and Summer Precautions.

The Technical Seminar was attended by around **50**Layer farmers surrounding the Dhaka Bangladesh area.

Mr Md Mahbub Alam, Manager, Nature Care proposed vote of thanks to all. The local Nature Care and Venkys Team, Dr Faiz Khan Rakib, Technical Manager (sales) organised this technical seminar.

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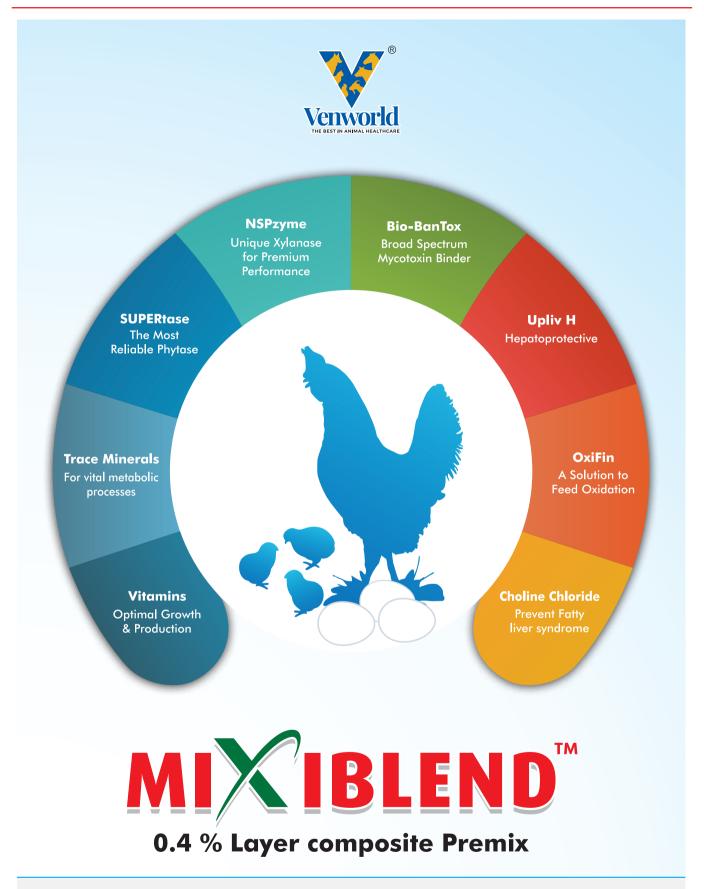




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### Avitech Nutrition and PhyGeno Host Successful Inaugural Animal Nutrition Technical Seminar in Dhaka, Bangladesh

Avitech Nutrition and PhyGeno hosted their first-ever Animal Nutrition Technical Seminar in Dhaka, Bangladesh. The event brought together key stakeholders from the feed industry, including leading nutritionists, feed millers, and distributors from across the country.

The evening commenced with a welcome address from Mr Rahul Kapur, Managing Director of Avitech Nutrition, who provided an overview of the Keggfarms Group companies. Mr Kapur emphasised the pivotal role of science and innovation as the driving force behind the group's advancements.

Mr Matthew Clark, Director of Feed Guys Resources, gave a compelling presentation on Avitech Nutrition's innovative product, *Performins*. Performins is available as individual glycinates, standard and customised formulations for poultry and cattle. Performins Monoglycinates mark a significant move forward in enhancing nutrition in animal feeds.



The seminar continued with insightful presentations from esteemed speakers, Dr Avinash Srivastava, head of Science at Avitech Nutrition and Dr Sateesh Chauhan, Vice President, Research and Development at PhyGeno, who provided anin-depth analysis of PhyGeno's Avitriol D - a plant-based bioactive form of Vitamin D3, which is

absorbed faster without any metabolic loss.

Mr Clark, a highly regarded consultant with over 35 years of experience, presented a session titled 'Thinking Around Crude Protein in Feed Formulation,' sharing invaluable insights into understanding crude protein.

"The success of the inaugural Animal Nutrition Technical Seminar underscores the growing importance of innovative solutions in the poultry feed market," stated Mr Arjun Vohra, CEO of Avitech Nutrition, during the seminar's conclusion. "We are committed to leveraging the latest

technologies to address the evolving needs of our industry. Events like these allow us to connect with key stakeholders and showcase our dedication to excellence. As we continue to expand our presence in Bangladesh, we remain focused on delivering



products and solutions that empower our partners to thrive in this dynamic market." He expressed confidence in the great potential of the growing animal feed market in Bangladesh, reiterating the company's commitment to providing products and solutions that enable stakeholders to achieve their potential.



A view of participants along with Rahul Kapur in the Technical Seminar organised by Avitech Nutrition at Dhaka, Bangladesh recently



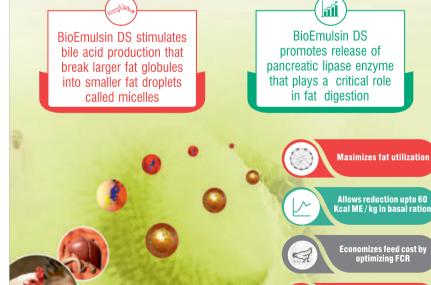


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### CLFMA OF INDIA along with Broiler Co-ordination Committee organize Seminar on 'Surging Ahead' on May 3 at Coimbatore









Coimbatore: CLFMA
of India organized a
successful seminar along
with BCC at The Residency
Tower, Legend Hall,
Avinashi Road, Coimbatore,
on Friday, May 3rd, 2024
from 06:30 pm onwards.
The theme of the seminar
was "Surging Ahead
Towards the Next Level:
Contributing to the Five
Trillion Economy."

Mr R. Ramkutty, Zonal President – South of CLFMA, extended a warm welcome to all participants at the seminar. He provided insights into the challenges confronting the poultry industry.

Following this, Mr Suresh Deora, Chairman of CLFMA of India, introduced the theme "Surging Ahead" and extended a gracious welcome to all attendees.

The Presidential address and moderation of the deliberations were carried

out by Mr R. Lakshmanan, Chairman of BCC and Managing Committee Member of CLFMA of India.

CLFMA Dy. Chairman Mr Divya Kumar Gulati introduced Mr Reece H. Cannady, Director of the US Grains Council. He delivered an insightful presentation titled "Emerging Trends and Challenges in Grains." Overall, the presentation provided a comprehensive overview of the current trends and challenges in the grains market, with a focus on corn, ethanol, DDGS, and freight logistics.

CLFMA Hon. Secretary, Mr Abhay Shah introduced Mr Amit Sachdev, Regional Consultant at the US Grains Council. He presented an in-depth analysis titled "India Corn Outlook." Overall, Mr Amit Sachdev's presentation provided valuable insights into the current dynamics and future prospects of the corn market in India, addressing key factors such as demand drivers, supply challenges, and potential areas for development.

CLFMA Treasurer Mr Nissar F. Mohammed introduced Mr Jaison John, India Team Lead at USSEC & Managing Committee Member of CLFMA OF INDIA. Mr Jaison John emphasized that rising raw material prices will lead to higher food prices and potentially lower food quality. He suggested that importing genetically modified (GM) raw materials could be one viable solution. He delivered a comprehensive presentation titled "Protein Meals: Present, Future Trends, and Challenges." In his presentation, he highlighted India's progression towards maturity in food demand and outlined strategies to address protein

challenges, particularly through initiatives like the Soy Excellence Centre program. He also discussed the expansion of US soybean crush capacity and the expected impact on soybean meal production. Additionally, he touched upon the National Oil Mission and rapeseed production scenarios, providing comprehensive insights into the future of protein meals in India.

Mr R. Ramkutty, CLFMA South Zone President introduced Dr T. Bina, Director of the Happy Valley Business School. She delivered a compelling presentation titled "Professionalism in Family Business." Throughout her presentation, she delved into the

intricate life cycle of family businesses, exploring various stages and challenges. Dr T. Bina supplemented her insights with enlightening case studies that exemplified real-world scenarios and lessons learned within family-owned enterprises.

The Question-and-Answer session concluded on a high note, characterized by its interactivity and engagement. Following this enriching exchange, Mr Divya Kumar Gulati, Deputy Chairman of CLFMA of India, delivered a gracious Vote of Thanks, expressing gratitude to all participants for their active involvement and contributions. Subsequently, the seminar transitioned seamlessly into a dinner session, fostering continued networking among the attendees. Overall, the seminar was a resounding success, with nearly 75 members and delegates in attendance, reflecting the enthusiasm and interest surrounding the event.





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#### **Packing**

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#### Dose

Animal Species	Stage	Protoxin Dosage
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Laying hens	0-6weeks 6-14weeks 14-20weeks 20weeks	2000-3000 1000-2000 500-1000 1000-2000 2000-3000
Pig	Piglet Grower-Finisher Sow	2000-3000 1000-2000 500-1000





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# **CLFMA Organizes Seminar on 'Feed Ingredients: Supply, Price and Alternatives' on May 17 at Pune**

Pune: On May 17, 2024, CLFMA OF INDIA hosted a seminar titled "Feed Ingredients – Supply Price and Alternatives," commencing at 10:30 am. Dr Dinesh Bhosale, Past Chairman of CLFMA OF INDIA. served as the The Seminar opened with a Welcome Address by Mr Suresh Deora. He introduced the event's theme and warmly welcomed the Chief Guest and all attendees.

The Keynote Address was delivered by Dr Niteen V.



Master of Ceremony. He began by introducing Mr Suresh Deora, Chairman of CLFMA OF INDIA, the Chief Guest, Dr Niteen V. Patil, Hon'ble Vice Chancellor of Maharashtra Animal & Patil, who highlighted the essential collaboration between the Livestock Industry and the University.

Mr S. V. Bhave, Past Chairman of CLFMA OF INDIA, delivered



Fishery Sciences University (MAFSU), Nagpur, and Mr Divya Kumar Gulati, Deputy Chairman of CLFMA OF INDIA.

the Opening Remarks. Subsequently, Speaker Mr Sanjit Padhi, Advisor to the All India Distillers





Association, presented on the availability of DDGS in India, explaining its details comprehensively. Mr Nagaraj Meda, Managing Director of Transgraph, Hyderabad, discussed raw material availability and price forecasting. Dr The presentations were well-received and appreciated by all participants. The seminar concluded with an interactive and engaging Question-and-Answer session.



N. V. Kurkure, Director of Research at MAFSU, Nagpur, explored the potential of DDGS in animal feed. Mr Reece H. Cannady, Director of the U.S. Grains Council, delivered an insightful presentation titled "Global Grains Outlook Including Maize, Sorghum, and Millets," providing a thorough overview of the global grains market.

Mr Divya Kumar Gulati, Deputy Chairman of CLFMA OF INDIA, delivered a gracious Vote of Thanks, expressing gratitude to all participants including CLFMA Staff for their active involvement and contributions. The seminar was deemed a resounding success, with nearly 108 members and delegates in attendance, reflecting the high level of enthusiasm and interest in the event.



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### GLAMAC Conducts Annual Conference at Darjeeling: A Journey of Inspiration and Innovation

In the heart of the Himalayas, where the sky meets the earth in a breathtaking display of grandeur, Glamac International Pvt. Ltd. recently convened its annual conference amidst the enchanting backdrop of Darjeeling. From the 5th to the 9th of April 2024, the entire Aqua and Poultry team, comprising members from diverse regions spanning India and Nepal, gathered at the Central Heritage Hotel for an unforgettable experience of camaraderie, learning, and celebration.

Darjeeling, with its towering peaks and verdant valleys, served as an idyllic setting for annual gathering. This quaint town, renowned for its iconic toy train and world-famous tea gardens, provided a serene and inspiring environment for reflection and collaboration.



The conference kicked off with a warm welcome from the Founder and Managing Director, Mr. Abir Mukherjee, whose insightful opening remarks set the tone for an engaging and productive event. Mr. Mukherjee's emphasis on the core principles of teamwork, cooperation, and holistic growth resonated deeply with all attendees, fostering a sense of unity and purpose among the participants.

Joining the team as the distinguished guest of honour was Mr. Sahil Deepak Salvi, Advocate at the Mumbai High Court.

Mr. Salvi's presence added a touch of legal expertise and perspective to discussions, enriching dialogue with insights into regulatory frameworks and legal considerations pertinent to the industry.

Director Meghana Mukherjee unveiled a comprehensive digital roadmap for the company's future, charting a course for innovation and expansion in the coming year. Her visionary strategy underscores Glamac's commitment to staying ahead of the curve and driving sustainable growth in a rapidly evolving market landscape.

The financial aspect of operations was expertly addressed by Senior Finance Manager, Mr. Sujit Jadhav, whose meticulous analysis and strategic planning laid the groundwork for fiscal success in the year ahead. Mr. Jadhav's presentation of targets, achievements, and budgetary allocations provided invaluable clarity and direction for the company's financial trajectory.

Technical seminars led by Dr. Sumon Nag Chowdhury, AGM-Technical & Marketing and the Product Managers Dr. Rahul Mogale & Dr. Rajesh Reddy delved into the





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latest advancements and best practices in poultry and aqua segments. Their in-depth presentations and interactive sessions empowered the team with cutting-edge knowledge and tools to enhance product quality and efficiency. The unique attraction of the event was a live business session by Mr. Vinod Mishra, AGM-Sales (North & South) & Mr. Amit Debnath, Zonal Manager-Sales (Eastern India, Nepal & Bangladesh), moderated by Dr. Sumon Nag Chowdhury and participated wholeheartedly by the entire attendees.

A highlight of the conference was the recognition and celebration of the dedicated team members, with well-

deserved promotions and awards announced by Mr. Abir Mukherjee. This gesture of appreciation underscored Glamac's unwavering commitment to fostering talent and recognizing excellence within ranks.

The conference concluded on a high note with a vibrant gala and DJ night, where laughter and camaraderie filled the air as we celebrated our achievements and shared aspirations for the future. As the team bid farewell to the scenic vistas of Darjeeling, they carry with them a renewed sense of purpose and unity, ready to embrace the challenges and opportunities that lie ahead on journey of growth and success.

## **IB Group Emerges as Top 5 Poultry Companies in Asia!**



IB Group emerges as Top 5 Poultry Companies in Asia! In a resounding testament to its remarkable growth trajectory, IB Group, in collaboration with Aviagen, proudly announces a significant milestone: the acquisition of 100,000 Grandparent Poultry (GP) stock in a single financial year. This milestone not only underscores IB Group's ascendancy as a leading player in the poultry industry, but also highlights its steadfast commitment to sustainable growth and innovation. Since 2014, the association between IB Group and Aviagen has been characterized by unwavering dedication to excellence. Guided by the visionary leadership of Mr Dirk Wesjohann, MD - EW Group and Jan Henriksen, CEO of Aviagen, IB Group has solidified its position as a formidable force in the poultry landscape, earning a well deserved place among the top five poultry companies in Asia. The celebratory moment was marked by an expressive ceremony where Peter Fisher, representing Aviagen, presented accolades to Mr Bahadur Ali, Managing Director of IB Group, alongside Ms

Zoya Afreen Alam, Director,

and Dr R.K. Jaiswal. President of IB Group. This milestone not only reflects IB Group's impressive growth trajectory, but also symbolizes the collective efforts and unwavering dedication of its leadership and employees. Reflecting on this momentous occasion, Mr Bahadur Ali remarked, "Our decade-long association with Aviagen has been instrumental in driving IB Group's exponential growth. With Aviagen's unwavering support, we are steadfast in our commitment to achieving a notable 25% year-onyear expansion in our poultry business." He further emphasized IB Group's commitment to empowering rural communities and addressing the burgeoning demand for nutritious protein in India by supplying sustainable, affordable, and nutritious protein to meet the evolving needs of the country's growing population. As it celebrates this momentous achievement, IB Group reaffirms its unwavering commitment to excellence, sustainability, and societal impact, setting a shining example for the industry at large.



### Immeureka Animal Health organises Technical Seminars in Haryana, Punjab



Dr Rajesh Kokje making a presentation with the attendees

Immeureka, a startup in the poultry sector, conducted a technical seminar on April 26th and 27th, 2024, at Kanina (Haryana) and Zirakpur (Punjab). The main objective of the conference was to provide veterinarians, poultry farmers, and feed millers with the necessary knowledge of two key topics: "Mycotoxin and Pesticide Residue Management in Poultry" and "Premix for Laying Birds as a One-Stop Solution."

The event began with a cordial greeting from Mr Sarwar Ali, who gave a brief overview of the company and presented the product range of Immeureka Animal

Health Private Limited to the attendees.

Following the introduction, Dr Rajesh Kokje detailed how the mycotoxins and pesticide residues in feed will negatively impact poultry production and in what way control measures need to be implemented. Among the control strategies he explained were Xpel which is an algae-derived diatomite that binds multiple mycotoxins and selectively binds pesticide residues in all raw materials and feed, and another product. Xpel Spectra are organic blends of diatomite, HSCAS, and yeast extract that target multiple mycotoxins and bind pesticide residues



Sarwar Ali along with the attendees

in feed, with additional benefits of immunity enhancement by  $\beta$ -glucans and pathogen agglutination in the intestine by Mannan oligosaccharides (MOS).

The session by Mr Sarwar Ali emphasized the importance of premixes for the laying birds. He explained about Potenza, the synergistic combination of highly effective special ingredients that offers laying hens a total and superior solution from the first day to the end of the production. Potenza is a comprehensive product that consists of tributyrin, organic minerals, i.e., Mn, Zn, Cu, Se, methionine, and prebiotics. Tributyrin

enhances gut health, thereby increasing nutrient digestibility, growth performance, and immunity in birds. Prebiotics provide active support and relief for the immune system, they have high bonding power, inactivate pathogens and toxins in the intestinal lumen, and optimize the digestive processes. Trace minerals provide the essential nutrients poultry need for metabolic functions such as growth and development, immunity, and reproduction, and they also help reduce the number of thin-shelled and dirty eggs during the late-laying period. Hydroxyanalogue of methionine is required for feather development and maintaining egg production in poultry.

After the seminar, Mr Hanumatesh, the Immeureka zonal manager for North and East, and Mr Bijoy Kumar, regional manager for Punjab, gave vote of thanks, thanking them for their participation in the event. The event offered farmers, professionals and feed millers an opportunity for deep conversation, fostering networking and the exchange of knowledge.



A view of participants

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### Nandus Stand by young Badminton players Prerana Seth, Geto Sora



Naveen Pasuparthy, Prerana Shet, Geto Sora and Narendra Pasuparthy

At Nandus Foods, we believe in the power of perseverance, stamina & endurance – qualities that are integral to both sports and a healthy lifestyle.

Nandus is happy and proud to announce its partnership with Badminton & Anup Sridhar Badminton



Geto Sora with Madhu Kumar

Academy, supporting the young rising stars Ms Prerana Seth (18 years) national champion and Mr Geto Sora (8 years) national champion in their journey to become national & international Badminton champions.

Badminton is all about stamina and endurance. Protein is the building

block for this. Nandus is in the business of providing good, healthy, natural and consistently highquality protein - so Nandus association with this sport & Anup Sridhar Badminton Academy.



Geto Sora, Prerana Shet, Vijay Lancy, Anup Sridhar , Nagabhushan H N

Over the next three years, Nandus will be standing by Ms Prerana & Mr Geto, providing them with all resources needed to play competitive badminton, nationally & internationally. Nandus commitment goes beyond business. It's all about nurturing young talent & protein, fostering a spirit of excellence & contributing to a fit & healthier, competitive sports community.



Prerana Shet with A. Nanjunda Shetty

### NOVUS Names New Business Director in Asia

Rajeev Murthy takes the helm of a key market for the intelligent nutrition company

CHESTERFIELD, MO (May 29, 2024) – Rajeev Murthy has joined NOVUS as the new senior director & managing director of Asia Pacific. Murthy will shape and steer the intelligent nutrition company's strategy in this vital market.

"Rajeev comes to NOVUS with more than 25 years of industry experience," says Sr. Vice President and Chief Commercial Officer Ed Galo. "Along with his positive track record for driving commercial success, employee engagement and talent development, we are confident in his ability to elevate our presence and enhance our strategic initiatives across the Asia Pacific region."

Originally from Bangalore, India, Murthy says luck brought him to the animal agriculture industry, but he's made it his life's career "for the difference one can make in improving access to healthy and safe protein."

When it comes to supporting poultry, swine, and dairy producers in Asia Pacific, Murthy says customer profitability is key.

"For poultry, driving profitable growth while being mindful of changing customer needs where sustainability and antibiotic use are concerned is important," he says. "For swine, we need to investigate ways to return to a profitable operation in a world that is still impacted by challenges resulting from African



Swine Fever. With dairy, we can show how to drive efficiency in the operation."

As part of NOVUS' goals to deliver solutions closer to the customer, Murthy will be based out of the company's office in Bangkok, Thailand.

Before joining NOVUS, Murthy held regional leadership roles at dsmfirmenich in its Animal Nutrition & Health business unit, and Eli Lilly & Company in the Elanco Animal Health division. He also served as CEO of the feed business for Godrej Agrovet Ltd., an Indian livestock and agribusiness company.

NOVUS is the intelligent nutrition company providing solutions for the global animal agriculture industry. The company's portfolio includes bischelated organic trace minerals, enzymes, eubiotics and methionine solutions along with a network of experts worldwide to provide guidance on management best practices.

For information on how NOVUS is supporting producers, nutritionists and feed mills in Asia Pacific, visit novusint.com.









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### NUQO expands into India: Expert Team and Advanced Technologies

Bangalore: NUQO announced the opening of its new affiliate in India, marking a significant milestone for the company. In the last few years, NUQO's technologies have experienced rapid expansion globally and gained swift recognition in the market in recent years.



Ewenn Helary, CEO, NUQO

Headquartered in Europe, NUQO is a feed additives company and a pioneer in developing technologies based on the micro-encapsulation of metabolites from plants and seaweed (phytogenics and phycogenics). The company has established new standards to produce feed additives for animal nutrition, leveraging unique expertise in manufacturing technologies to produce more active, stable, and effective products, along with a broad knowledge of natural extracts & innovative molecules. Its groundbreaking work has been acknowledged over the last few years

through participation in various well-known scientific congresses and publications.

In recent years, NUQO has expanded its distribution network globally and established regional hubs, including affiliates in Thailand and, more recently, in Mexico.

NUQO is proud to announce the opening of **NUQO Animal Nutrition** India Pvt Ltd said a note from Mr Ewenn Helary, CEO of NUQO, views this development as a remarkable achievement: "We are thrilled to launch Nuqo in India, a large yet demanding market. Two key factors enabled this launch: our offering of technologies with exclusive features that create genuine value for customers, and the opportunity to onboard exceptional colleagues. This milestone underscores the merit of our strategic approach and our ability to execute it successfully as a team." With the launch of NuqoIndia, NUQO's dedicated team in India, led by Mr Neeraj Kumar Srivastava, brings extensive industry experience and local market insights to drive the company's growth and meet the evolving needs of Indian customers.

With a robust background in the Animal Health and Nutrition industry, Mr Srivastava has served as



Neeraj Kumar Srivastava

Managing Director for major industry players in South & Southeast Asia. He also held the prestigious position of Chairman of CLFMA, a prominent livestock association in India, from 2020 to 2022. In addition, he holds board positions in esteemed industry associations, demonstrating his dedication to industry growth and development. Mr Srivastava remarked, "Throughout my career, I have cultivated an extensive network and deep market knowledge in India and neighboring countries. I have played pivotal roles in the development of major businesses in animal nutrition within Indian Subcontinent. I strongly believe in the value of Nuqo's technologies and our team's capability to deliver these solutions sustainably and effectively to Indian market. Our objective is to address the key needs of the market & our customers, and we believe that NUOO's science& research based technologies are ideally

suited for this purpos

In summary, the launch of Nugo India represents a significant step forward in NUQO's global expansion efforts, following years of impressive growth. Mr Guillaume Etave, Global Sales Director of Nugo, emphasized the importance of this development: "The establishment of this subsidiary enhances our local presence in India, allowing us to better serve our customers in this rapidly growing market and address their specific needs. It also strengthens our capability to form strong strategic partnerships and fully leverage the unique business opportunities presented by this dynamic market. We are delighted to



Guillaume Etave, Global Sales Director, NUQO

welcome Mr Srivastava who joins our team to lead this new initiative" Mr Etave concluded: "This strategic expansion underscores the relevance of Nuqo's approach, demonstrating NUQO's ongoing dedication to meeting customer demands worldwide and seizing opportunities in key emerging markets".

For more information: neeraj.srivastava@nuqo.in or info@nuqo.eu



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### Combating Protein Deficiency: Poultry Protein's Vital Role in India's Nutrition Landscape

New Delhi: In a concerted effort to address the pressing issue of protein deficiency among the Indian populace, the Poultry Federation of India (PFI) with support from USA Poultry and Eggs Export Council (USAPEEC) recently hosted a session held on 18 May 2024 in New Delhi, which convened leading industry experts to underscore the indispensable role of poultry protein in addressing India's nutritional challenges. With participation from



Mr Ranpal Dhanda, President, PFI

renowned industry experts, this served as a platform to advocate for enhanced protein intake, particularly through poultry products like chicken, duck, turkey and eggs.

The Poultry Federation of India (PFI) and USA Poultry and Egg Export Council (USAPEEC) recently forged a collaborative partnership to promote poultry proteins which signals a significant step forward in promoting awareness and consumption of



**Ricky Thaper** 

poultry protein as a pivotal component of daily diets.

Protein deficiency remains a critical concern in India, as highlighted by the Indian Council of Medical Research (ICMR). Despite established recommendations emphasizing the importance of adequate protein consumption for optimal health, the nation continues to grapple with subpar dietary protein intake, significantly below recommended levels. According to a recent survey by the Indian Market Research Bureau (IMRB), a staggering 73% of urban affluent individuals

are protein deficient, with a vast majority unaware of their daily protein requirements or suitable protein sources.

Mr Ranpal Dhanda
– President, Poultry
Federation of India, Mr
Ricky Thaper - Treasurer,
Poultry Federation of
India, Ms. Pratibha Dixit
- Nutritionist/Dietician,
Artemis Hospital, Dr Ajit
Ranade – Vice President,
World Veterinary Poultry
Association and Mr Shiven
Khanna – USAPEEC were
key speakers.



Ms Pratibha Dixit

Mr Ranpal Dhanda, President of the Poultry Federation of India, addressed protein deficiency in India. He stated, "We're glad to collaborate with USAPEEC to raise awareness about the health benefits of poultry products. Through



Dr Jeetendra Verma, President, WVPA - India

the combined knowledge, our objective is to amplify understanding regarding the nutritional benefits of poultry products and elevate the standards of health and wellness."

Mr Ricky Thaper, Treasurer, Poultry Federation of India added that Chicken meat and eggs are perceived as healthier alternatives to red meat, driving up the demand. Poultry products are often more affordable than other protein sources, making them accessible to a broader segment of population. Mr Thaper further stated that in the post Covid19 pandemic



Dr Ajit Ranade, vice president, World Veterinary Poultry Association and Shiven Khanna, USAPEEC along with other participants



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phase the demand for the protein rich food like poultry meat and eggs have increased sharply. The growing awareness regarding health and wellness is further driving the demand for a proteinrich diet.

During the Session on Poultry Protein, Dr Pratibha



Dixit, emphasized the imperative of raising awareness about protein's significance in daily nutrition. She stressed the need for educating individuals on appropriate protein intake levels and the diverse sources of protein available in the diet. Poultry products emerged as standout

examples of complete and bioavailable proteins, offering a comprehensive nutritional profile essential for overall health.

Dr Jeetendra Verma, President, World Veterinary Poultry Association (India) explained the goodness of chicken meat. He said that Chicken meat is a highquality protein containing all nine essential amino acids in right proportions. It's a Lean Protein with high nutrient density. Means it provides essential vitamins and minerals also including B complex vitamins, selenium, phosphorus and niacin. Chicken protein also helps

in muscle management and growth, hence it is very popular and essential for athletes and individuals looking for building the muscle mass.

Further elucidating the nutritional merits of poultry protein, Dr Ajit Ranade, Vice President of the World Veterinary Poultry Association, emphasized its role as a complete protein source. Highlighting the goodness of healthy proteins, fats, and micronutrients inherent in poultry products, he underscored their efficacy in bolstering immunity and overall well-being.

The session provided attendees with an opportunity to delve deeper into the nuances of protein consumption and its implications for public health. Discussions revolved around strategies to enhance awareness, promote dietary diversity, and expand opportunities for poultry products.

The collaborative efforts between PFI and USAPEEC, signify a multifaceted approach encompassing education, research and development and nutritional awareness. By collaborating their expertise, this initiate aims to catalyse a paradigm shift in addressing India's protein deficiency challenge, positioning poultry protein as a cornerstone of a balanced and nourishing diet.

In conclusion, the session served as a pivotal moment in galvanizing stakeholders towards combatting protein deficiency. Poultry protein holds immense promise in fortifying India's nutritional landscape.







A view of participants in the session held by PFI and USAPEEC on 18 May 2024 at New Delhi



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# Dr Mahendra Deshpande joins VEGA Group as sales Director, India

Hyderabad, May, 2024: In line with its worldwide business expansion plans, VEGA Group China, announced the appointment of Dr Mahendra Deshpande as Sales Director for Indian subcontinent. Dr Mahendra will drive VEGA's business development & growth strategies across the region to support the Animal Health & Feed Industry in achieving safe and sustainable production in Poultry, Dairy, Aqua etc

VEGA group is a hightech company engaged in the development, production and marketing of functional feed additives, pharmaceutical products, food ingredients, animal health products, vitamins and premixes, disinfectants, medical equipment etc.

VEGA, headquartered in Zhejing, China, has 09 production sites with huge production capacity and plans to open 1-2 production bases annually. These facilities have been certified by GMP, GMP+, Iso, FAMI-QS, KOSHER, HALAL etc.

With key competencies in functional feed additives, pharmaceuticals, food and animal health, VEGA has established extensive business networks covering more than 80 countries around the world. VEGA will continue to innovate in technology and products

to create a sustainable and competitive global supplier under the brand "Ideas



for a better life" is VEGA's commitment.

VEGA GROUP, provides one-stop solution to improve nutrition, health, and performance of animals, by giving farmer's a peace of mind. With 80+ countries, animal nutritionists, veterinarians, and producers worldwide have partnered with us, recognizing superior research and development in fermentation technology and preparation technology of Vegamax. Our people, products, and partnerships build value in global feed and food production!

Dr Mahendra Holds Master degree in Veterinary Sciences & Animal Health from MAFSU, India and is a certified DVM. He has more than 20 years of working experience in operations management, sales, marketing, and different techno-commercial

functions with different National & Multi-National companies operating in Animal health & nutrition segment in India.

Having a strong technical knowledge and expertise in strategic planning and execution together with account management focused on precise pre and post sales efforts. Dr Mahendra has been known for improving organisational performance and unlocking new business opportunities through strategic alliances with key decision makers.

Dr Mahendra will provide best solutions from VEGA and services to Indian customers.

You can reach him by: phone @ +91 9533391752 Email @ mahendra@ vegapharma.com

# Dr Yousuf requests friends and colleagues in poultry for financial help

I worked nearly 50 years in poultry industry in India and sub-continent in different capacities for different organizations. For the past 10 years, I am suffering with paralysis and I am unable to move to work for my livelihood. I worked hard and honestly during my service in poultry industry and I lived well, but could not develop any assets.

I do not have any source of income for my living and for my medical expenses. Out of two sons, one died at the age of 30 years, another one is not having permanent job and he is living separately.

I humbly request through Poultry Fortune magazine to all my friends and ex-colleagues to help me financially whatever is possible for you, and I will be very much thankful to you for the kind gesture. You may kindly transfer amount to my below bank account or Google Pay:

My and my Wife's joint Bank Account details:



Account Name: Ms Atiya
Syed Yousuf Hussain,
Account Number:
30004280525
Bank Name: State Bank of
India
Bank Branch: Aliabad
Branch, Hyderabad,
Telangana – 500 065, India.
IFSC Code: SBIN0008024

# **Google Pay**

No: 93963 71509, Ms Zikra Fatima (My Niece)

Thanking you,

Your's Loving Colleague & Friend,

#### Dr Syed Yousuf Hussain,

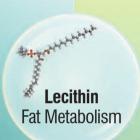
Retired Poultry Consultant, Falaknuma, Hyderabad, India. Mobile: 72074 02589 Whatsapp: 72076 72824

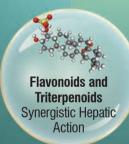
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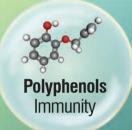
# Fatty liver over shadowing performance

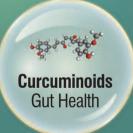












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# NUQO opens its office in Bangalore, India

Bangalore, 28th May 2024 - NUOO Feed Additives, a prominent European supplier of micro-encapsulated phytogenics, phycogenics, palatants, and feed flavors, proudly announces the grand opening of its new office in Bangalore, India. Operating under the legal entity Nugo Animal Nutrition India Pvt Ltd, this strategic expansion marks a significant milestone for NUQO Feed Additives France, reinforcing its presence in one of the largest animal health and nutrition markets globally. The Bangalore office will serve customers across India and the Indian subcontinent.

"As CEO of NUQO, I am genuinely excited about this new chapter. The establishment of our Indian affiliate not only strengthens our presence in the region but also reinforces our commitment to building strong, collaborative relationships with local partners. We



Neeraj Kumar srivastava, MD, Nuqo Animal Nutrition India Pvt Ltd; Srihari Reddy, MD, Lotus farms; Dr Sandeep Karkhanis, MD Nivelte Feeds and Sumit Sureka, MD, Shivshakti Agro kolkata during Nuqo office inauguration ar Bangalore

can't wait to bring our exclusive technologies to the feed industry in India. I look forward to the incredible opportunities this will bring and am eager to work alongside Neeraj and our exceptional new team," affirmed Mr Ewenn Helary, Global CEO of NUQO.

Mr Neeraj Kumar Srivastava, Managing Director of Nuqo Animal Nutrition India Pvt Ltd, stated, "We are excited to unveil our innovative technology and unique solutions to meet the current needs of the market and customers. Our unwavering commitment to pioneering innovation and setting the highest standards in the animal health and nutrition industry is at the forefront of our mission"

Mr Srivastava also announced the



Srihari Reddy, Dr Sandeep Neeraj and Sumit Sureka

appointment of Dr
Krishnamurthy Dasappa
as Commercial Director
of Nuqo Animal
Nutrition India Pvt Ltd.
Dr Krishnamurthy is a
highly accomplished
professional with over
22 years of experience in
the animal science and



Dr Krishnamurthy Dasappa, Commercial Director, Nuqo Animal Nutrition India Pvt Ltd





Srihari Reddy, Sumit Sureka, Naveen Balkrishna Nandus, Neeraj and Dr S.S Pattabhirama, chief nutritionist, Nanda Group.

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nutrition field, having held prominent positions at global organizations such as Provimi, Cargill, and Novus. He holds a master's degree in Poultry Science/Nutrition from the Veterinary College, University of Agricultural Sciences, Bangalore, India. His extensive expertise in sales, marketing, product management, and technical services makes him a versatile and wellrounded professional. Dr Krishnamurthy has demonstrated proactive leadership in driving sales and marketing initiatives, formulating and implementing strategies to increase market penetration, drive revenue, and enhance profitability. His proficiency in sales forecasting, building strong distribution networks, and developing effective marketing strategies has significantly contributed to the success of the organizations he has served. "I am confident Dr Krishnamurthy's presence with NUQO India will add tremendous value to both our organization and the industry," said Mr Srivastava

Mr Ewenn Helary echoed this sentiment, stating, "We are delighted to announce that our affiliate, NUQO India, is welcoming a new team member, Dr Krishnamurthy Dasappa, on 3rd June 2024. This is a significant addition to our team, as Dr Krishnamurthy brings years of experience in the animal nutrition industry in India, along with his proven expertise in sales, marketing, and technical services"

Dr Krishnamurthy Dasappa expressed his enthusiasm, stating, "I am thrilled and excited to be part of NUQO, a globally leading additive company with cutting-edge and advanced technologies in the field of phytogenics and phycogenics through micro-encapsulation. I am confident NUQO's unique solutions and technologies can be leveraged to add significant value to our customers in the Indian subcontinent"

With the establishment

of its Bangalore office, NUQO is poised to make substantial strides in the Indian and regional markets, bringing its innovative feed additives and commitment to excellence in animal health and nutrition.

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# One Health: An Approach to Global Well-Being



In today's world, the relationship between humans, animals, plants, and their shared environment has become very close. With the global population on the rise, the interaction has intensified. As a result, more people live in close contact with wild animals and domestic animals which makes humans more susceptible to the diseases that are caused by the contact of animals. The frequency of zoonotic disease outbreaks has surged due to environmental changes driven by population growth, such as extensive deforestation. Disruptions to natural ecosystems create conditions that make animals more susceptible to new diseases, increasing the likelihood of transmission to humans.

Each year, the world witnesses the emergence of new disease outbreaks, many of which are endemic or zoonotic in nature. Diseases like Rabies, Salmonella infection, West Nile virus infection, O Fever, Anthrax, Brucellosis, Lyme disease, and others affect millions of people worldwide. Moreover, recent events like the COVID-19 pandemic highlight the potential for major disease outbreaks not directly linked to animals.

These threats risk the well-being of humans, animals, plants, and the environment alike.

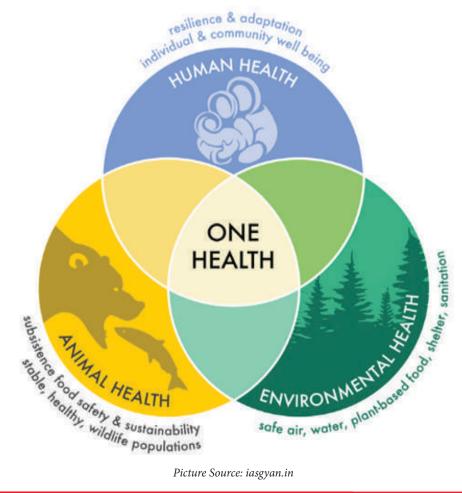
The intricate interplay between humans, animals, and the environment underscores the need for proactive measures to mitigate the risks associated with disease transmission. So, what is the solution for this? The recent decision on "National One Health Mission" by the cabinet marks a milestone.

#### What is One Health?

In July 2022, the Prime Minister's Science, Technology, and Innovation Council (PM-STIAC) Advisory endorsed the setting up of the 'National One Health Mission. It is an approach to balance the health of people, animals, and the environment. One Health aims to forecast, identify, stop, and manage global health risks, particularly zoonotic diseases. It promotes collaboration among stakeholders at various levels to prevent and control diseases like Zoonosis. This involves a coordinated, multisectoral, and interdisciplinary strategy at national, state, and district

# **Key Components of One Health**

- 1. Establishing One Health initiatives at national, state, and district levels to ensure collaboration.
- 2. Developing a skilled workforce through training programs and providing resources to regional coordinators and partner institutions.
- 3. Implementing integrated surveillance systems for zoonotic diseases, including sites and digital portals.
- 4. Engaging with communities through outreach programs to raise awareness about "One Health."



Picture Source: iasgyan.in

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- 5. Advocating for One Health principles and effective risk strategies.
- 6. Conducting operational research to enhance understanding and response to health challenges.

## The one health approach focuses on three key areas

- **1. Human Well-being:** Recognizing and preventing diseases that can spread from animals or the environment to humans. By controlling these zoonotic diseases we can prevent major outbreaks and protect public health.
- 2. Animal Well-being: Animals play a crucial role in human well-being and economic stability, particularly in food production. Promoting animal health through measures like vaccination and disease surveillance ensures a stable and sustainable food supply.
- 3. Environmental Well-being: The health of the environment directly impacts both human and animal health. Factors like deforestation, pollution, and environmental degradation contribute to the spread of life-threatening diseases. Protecting the environment is essential for safeguarding the health of all living beings.

# How does the One Health approach work

One health includes communication, coordination, and collaboration among the Professionals in human health (doctors, nurses, public health practitioners, epidemiologists), animal agricultural health (veterinarians, paraprofessionals, workers), environment (ecologists, wildlife experts), and other areas of expertise. It is not just government departments but also our academic centers and the private sector that will be the critical stakeholders in making this a reality. In California, the Wildlife Health Laboratory noticed more reports of Salmonella in wild songbirds. This was happening in other states too. It worried people because Salmonella can make both humans and animals sick. The CDC and other health groups found that sick people had been near birds and bird feeders. The CDC then spread health messages across the country to prevent Salmonella. This helps keep people, pets, and wild birds safe. This is a good example of One Health in action. One Health aims to keep everyone healthy, protect nature, and stop outbreaks that could hurt people and animals.

#### Conclusion

The One Health approach offers a comprehensive strategy to address the complex challenges posed by disease transmission among humans, animals, and the environment. By recognizing the interconnectedness of these systems and promoting collaboration across various sectors, One Health aims to safeguard public health, ensure food security, and protect the environment. Through initiatives like the National One Health Mission, governments and stakeholders are working together to prevent and manage global health risks, particularly zoonotic diseases. By embracing the principles of One Health and implementing integrated solutions, the aim is to build a healthier, more resilient world for both present and future generations.<sup>1</sup>

<sup>1</sup>Disclaimer: The views and opinions expressed in this article are those of the author and do not represent the perspectives of any organization.

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# Current Challenges for Indian Poultry Industry and how TN approach is helpful

(Customer Centricity + Rapid, Reliable & Robust Solutions)

Dr Shiva Kumar, Director - Technical, Trouw Nutrition, South Asia

Poultry derived food products are the most important animal protein sources globally. India is the thirdlargest egg producer and the fourthlargest chicken producer in the world. Poultry meat and eggs are the most important animal protein sourcesavailable, and a significant increase is forecasted in demand.

But there is also a significant number of challenges facing the Indian poultry and allied industries with respect to sustainable production of poultry meat and eggs where market demands, and consumer needs will put more constraints on the production systems and methods. These challenges are dynamic and diverse, and solutions and opportunities will require development of appropriate technology, using and advancing our knowledge base.

Sustainable poultry farming is based on three pillars: environmentally sound, socially responsible, and economically viable. For all these pillars, innovation will be key and hence, advances in animal nutrition will play an important role, where we have concrete challenges in economical optimization of the value chain and meeting product quality demands, whilst safeguarding animal wellbeing and human health.

Trouw Nutrition is an organisation that deeply cares about building a more sustainable future – both for

our industry and for consumers. We are committed to transform science into actionable, practical nutrition and farm management solutions to help customers produce quality poultry meat and eggs. We support food producers with the technology that puts advice and data at their fingertips.

Feeding the Future is the essence of Trouw Nutrition (a Nutreco company), expressing the challenge to double food production while halving the carbon footprint. Our ambition is to contribute meeting the rising global demand with growing number of world population in a sustainable manner.

The Trouw Nutrition way focuses on innovation, quality, sustainability, and integrated solutions.

Our solutions are built on four solid pillars. Each one contributes to help









our customers adding more value to their business in a sustainable and a safe way.

Trouw Nutrition is built on a strong commitment to transform science into actionable, practical nutrition and farm management solutions. We focus on our four innovation pillars that deliver sustainability benefits to animals, farms, and the environment:

# **Early Life Nutrition:**

Birds are confronted with various stressful events during their life, especially in critical transition periods such as hatch and transport. Provision of nutrition and water during the immediate post-hatch period and during transit from hatchery to farm has shown promising effects on broiler performance and health in the first days and weeks of life (Bergoug et al., 2013; Published results, Trouw Nutrition 2016). Early life interventions do not per se result in higher market weights or improved feed efficiency in each flock, but it will contribute to more stable and consistent performance and a reduced risk of birds developing health problems.

## **Health Life:**

Animal Nutrition is an important part of the solution to help to contain Antimicrobial Resistance (AMR). Adequate animal nutrition (well-balanced and well-formulated feed) combined with good hygiene practices on farms and proper

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# **Early Life Nutrition**



# **Precision Farming**



housing are key in promoting animal health and welfare. A balanced diet of compound feed supported by specialty feed ingredients/additives meets the animal's physiological requirements and maintains the balance of the gut flora. Poultry Gut health is in fact a key factor in keeping birds healthy and resilient to stressors, such as heat or pathogens.

Trouw Nutrition Poultry Gut Health Solution, integrates Farm, Feed and Health approach.

Feed – Premixes, Young Animal Feed (ChickCare, NutriOpt, feed formulation advice including Intellibond C, Feed safety: Fysal/Fylax/ Toxo

Farm - Advice on farm management and biosecurity, Selko pH (drinking water) with dosing systems

Health - Selko pH (water) + Selacid (feed), Gut health evaluation

Water and feed acidification will contribute to maintaining a stable microbiota in poultry. The efficacy of organic and inorganic acids can be further enhanced by inclusion of medium chain fatty acids or other natural antimicrobial compounds that exert a broad-spectrum antimicrobial activity at relative neutral pH ranges.

#### **Precision Nutrition:**

From an economical point of view, we need in general to meet nutrient requirements of the birds in the most efficient and economical way and

# **Healthy Life**



# Feed Safety & Quality



assure that animals are in good health to exploit their potential.

Efficient use of resources e.g. feed ingredients will benefit environmentally sound production. In this respect, use and conversion of co-products from the food and biofuel industry to highly animal nutrition products is contributing to sustainable production as well. One of the challenges in our industry is to be flexible with our raw material usage to manage higher use of lowquality ingredients and anticipate on fluctuations in raw material prices, whilst at the same time we need to have grip on variation in raw material quality and assure that the feed delivers

Near infrared reflectance spectroscopy (NIRS) is a rapid technique to evaluate the nutrient profile of feed ingredients. A more advanced precision nutrition system such as NutriOpt from Trouw Nutrition has incorporated NIRS, with its extensive nutrient databases.

the same high

performance.

NutriOpt is an integrated nutritionalprecisionfeeding tool from Trouw Nutrition, which enables the poultry farmer or grower or feed miller tooptimize both feed costs and production results to maximize financial benefits in the value chain. It consists of several key elements that complement and support one another inoptimizing animal nutrition, performance and associated costs through precise real-time analysis, modelling and calculation.

To offer real-time feed analysis, Trouw Nutrition has introduced the NutriOpt On-site Adviser (NOA). This innovative solutionreveals the real nutritional value of yourfeed ingredients and helps to improveperformance and profitability. Poweredby our comprehensive NutriOpt database, the NutriOpt On-site Adviser provides with accurate analytical results to makebetter-informed choices.

The portable NIR scanner and the mobile app enable you to get analytical results of nutrients in raw materials and finished feed onsite. The mobile app connects the handheld scanner to the NutriOpt nutritional database and advice on the nutritional value of the scanned materials. The NutriOpt On-site can be even connected to your decision-making tools for a smooth optimisation process.

NOA can perform convenient analysis without samples leaving your farm, and the poultry farm owner can enjoy



# Mycomaster

Mycomaster gives full control over mycotoxin levels in feed batches.

The complete Mycomaster kit is easy to use in any location

You can quickly analyse the 6 most common mycotoxins (AFLA, DON, ZEA, OCHRA, FUM, T2-HT2)

It takes between 5 and 15 minutes to perform analysis

Key advantages















a greater control over their animal performance.

In relation to feed safety, mycotoxins are probably one of the most important risk factors that need to be controlled among the Indian poultry Industry. It is also encouraging to note, that rapid diagnostics are now more widespread globally adopted for quality control to take appropriate measures once mycotoxin contamination in raw materials is detected. It is an essential part of feed quality assurance and with the right measures the risks can be mitigated, which will prevent unexpected performance losses and health problems.

Measuring mycotoxin levels in feed can be time-consuming and requires specialised and costly methodology. Trouw Nutrition offers "Mycomaster", a tool to analyse mycotoxins.

Mycomaster provides rapid, costeffective, and quantitative mycotoxin analyses of over 40 validated feed raw materials and final feed. And it works on-site, bringing flexibility to testing frequency, in support to Feed quality control, formulation decisions and remediation strategies.

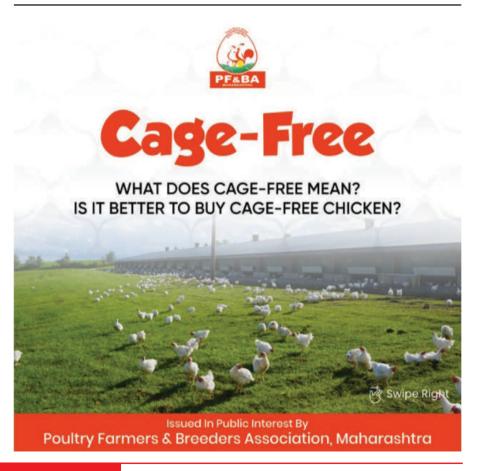
### Tackling the challenges:

The importance of using a holistic approach to enable successful conversion of feed into high quality poultry protein in a sustainable way is evident for the Indian poultry producers. These high

producing birdsmust be able to consume, digest, absorb and convert sufficient nutrients to meet their genetic potential, and do this consistently from flock to flock. To do this successfully and achieve high consistent production with acceptable risk will require increased use of existing technology and expanding our knowledge and information network. At Trouw Nutrition, we have the tools to

support the challenges faced by the poultry producers to make better choices to support the production chain. For a complete overview of our tools and services, please contact yournearest Trouw Nutrition expert/representative.

For further information, kindly write to us at customercareindia@ trouwnutrition.com or visit our website: www.trouwnutrition.in



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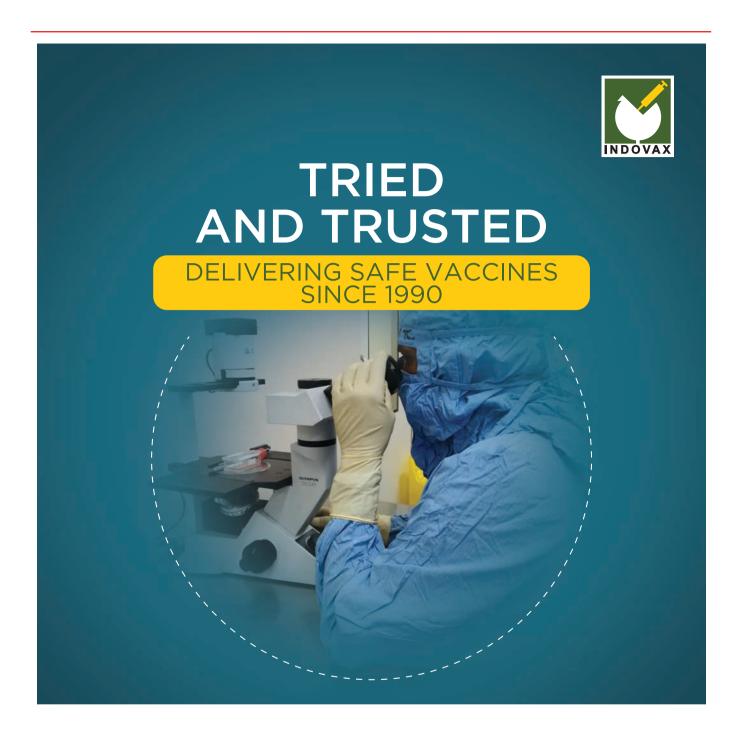


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# Alternative feeding approaches to improve production and health in poultry

Email: parthis17@gmail.com

# S. Parthiban, P. Raja, M. Parthiban and K. Reshma

Department of Animal Biotechnology, Faculty of Basic Sciences, Madras Veterinary College, Tamil Nadu Veterinary and Animal Sciences University, Chennai

Demand for poultry meat has increased tremendously over past two decades to meet growing human population demand and their consumption preference. Nutrition and gut health is essential for optimum performance, feed efficiency, and overall health of poultry. Type and composition of feed in poultry nutrition is the most critical factor influences the gut microflora. Researches evidenced that varying microbial community raise in association with different feed ingredients like, corn and sorghumbased diet increased Enterococcus sp, barley-based diet increased Lactobacillus sp, oat increased Escherichia sp and Lactococcus sp, and rye-based diet increased the Streptococcus sp. As per one-heath requirements, present usage of antibiotic growth promoters (AGP) to improve gut microbiome regulated in several jurisdictions. Redefined nutritional approaches alternative to AGP free nutritional strategies to grow safe and quality meat in the light of public health concern are essentially needs to be devised for every specific

geographical location with available ingredients.

# Feeding to improve growth and production

a) Physical form of feed ingredients The physical form of the feed materials used may influence gut development, utilization of nutrients, which may influence growth rate and performance. Larger feed particles promote gizzard development and feed is retained longer in the gizzard, and its particles are more uniform when pass to the small intestine, favoring their digestion. Feeding studies in broiler chicken with whole wheat could reduce the counts of Salmonella typhimurium and C. perfringens in the GIT of the birds. In addition, the inclusion of whole wheat into the broiler diets improve gut development, utilization of feed nutrients with increased growth rate and performance.

#### b) Balanced protein

Commercial feeds formulated with minimum crude protein levels that may have amino acid levels significantly higher than required

except total sulphur amino acids (TSAA), For example, a corn/sov diet has excess lysine and isoleucine. which results in minimum crude protein, levels with up to 40 per cent above lysine requirement. This excess lysine can drive muscle deposition. The negative effect of excess crude protein on fertility has been clearly affected and researchers have identified lysine and isoleucine as two amino acids directly affecting the fertility of breeders. Extremely low inclusion of isoleucine causes the diet to be unbalanced. The hen is forced to catabolize any excess amino acids in order to counteract the imbalance. Excess nitrogen can be very toxic and must be expelled from the body. This process of breakdown and excretion most likely leads to the observed differences in urine pH. The sperm host tubules are found near the utero-vaginal junction. There is a possibility that the tubules experience a different pH and perhaps some different ionic concentrations and ratios as a result of the low isoleucine diets, which may lead to the observed differences in fertility.

# c) Phosphorous utilization by synthetic enzyme

Phosphorous (P) naturally bound in plant materials as phytate form which can't be used in production process as such and usually passes directly through the gut and is excreted. Use of synthetic enzymes such as phytases can able to release phosphates from

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Short mixing cycle, high mixing evenness, the CV can reach to 5% or less.

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# **HRZL Serise** Pellet Mill

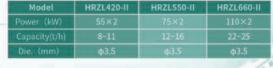
Suitable for manufacturing all kinds of poultry

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phytate and made available for physiological uses. This novel phytase enzyme feeding approach could able to offer 11 percent reduction of P requirement in the whole life of laying birds and subsequently resulting in lower undigested P in the litter.

### d) Substitute for AGP

Supplementation of 80 mg/kg of natural capsicum extract (NCE) in diets could improve growth performance, nutrient digestibility, antioxidant status, immune function, and meat quality in broilers. The effects of NCE fed birds showed equal to that of Chlortetracycline (CTC) fed birds. Therefore, NCE is considered as an effective alternative to AGP in broilers.

#### e) Minerals

Macro minerals such as calcium and available phosphorus plays crucial role on bone and eggshell integrity apart from these maternal levels of trace minerals especially zinc, manganese, copper and selenium impact levels in the egg and influence progeny. Hen feed deficient in zinc may cause slow growth of chicks, poor feathering and high mortality; while supplementing with inorganic and/ or organic zinc increased bone weight. Zinc's also play role in DNA and enzymes, also play role in synthesis of proteins like collagen and keratin. Keratin is a structural protein in skin and feathers while collagen is the major structural protein of internal tissues, including cartilage and bone. As with zinc, manganese, copper and selenium levels can be affected in the egg by maternal supplementation. Manganese is vital in embryonic and post-natal bone development. Copper is essential for reproduction and development.

#### f) Resin Acid Concentrate

Dietary Resin Acid Concentrate (RAC) feeding improves performance of broiler chicken and litter quality. RAC feeding @ 125–250 g/ton increased the final weight of birds, improved feed conversion ratio (FCR) and litter quality.

# Feeding to improve immunity and combat infections

a) Bacillus species-based fermented products (BSFP)

Bacillus species-based fermented

products (BSFP) are an influential and effective alternative to optimise gut health. Bacillus spp. Bacillus spp. can be produced by liquidstate and solid-state fermentation. Compared to liquid-state fermentation, Bacillus species-based fermented products (BSFP) produced by solid-state fermentation not only contains probiotics Bacillus spores, but also has antimicrobial cyclolipopeptides called "surfactin", studies have shown that BSFP in broiler diets can prevent disease, improve growth and performance by modulation of gut health. BSFP feed chicken evidenced improved production metrics by increasing lactic acid-producing bacteria abundance, activation of specific and non-specific immunological responses like modifying the intestinal profile of cytokines, triggering monocyte macrophage production, precursor cells for adaptive immune systems and natural killer cells and enhancement of phagocytosis etc. BSFP increase the cellular immune responses in broilers challenged with C. perfringens by up-regulating the inducible nitric oxide synthetase, interferon-γ, and interleukin-1β gene expression. BSFP act against pathogens including E. coli, C. perfringens, and Salmonella spp, improves phagocytosis and prevents pathogen invasion in a probiotic approach. Bacillus spp. spores have been suggested to encourage C. perfringens mortality, removing or mitigating its toxins causes necrotic enteritis in poultry. BSFP also improve the survival rate of E. tenella challenged broilers and decrease oocyst-count index in broilers. Importantly, the anti-coccidial index in the BSFP-fed broilers is increased and its anti-coccidial effects are similar to the anticoccidial drug (maduramicin).

# b) Beta-glucan (β-glucan)

Feeding of β-glucan can strengthen the innate immunity by up-regulating the oxidative burst, phagocytosis and bactericidal killing capacity of heterophils and decrease the incidence of organ invasion by Salmonella enteritica in neonatal chickens. Glutamine provides energy and nitrogen source for the

proliferation of immune and intestinal mucosal cells and is required along with cysteine for the synthesis of antioxidants like glutathione.

# c) Essential oil (EO)

Antibiotic growth promoters (AGPs) and ionophores free raising may increase incidence of enteric diseases such as coccidiosis and necrotic enteritis (NE), caused by Eimeria spp. and Clostridium perfringens, respectively. Essential oil (EO) like oregano, carvacrol, thymol, and cinnamaldehyde which have shown antimicrobial, antifungal and antiprotozoal activity against Eimeria. Further it aso favours proliferation of immune cells, elevated expression of cytokines, and an increased antibody titer have been associated with the EO. This includes both innate and adaptive immunity (cell-mediated and humoral immunity)Oregano oil supplementation @ 500 ppm showed a reduction in coccidiosis Probiotics feeding-Individual or multiple strains of Bacillus, Lactobacillus, Enterococcus, Pedicoccus, and Bifidobacterium have been shown to reduce coccidiosis in broilers by improving intestinal health as well as an improvement in growth performance health as well as an improvement in growth performance.

#### d) Probiotics

Probiotic mixture comprising Bacillus animalis, Lactobacillus salivarius, and Eimeria faecium fed to broilers as feed supplement and subsequent challenge with E. acervulina, E. maxima, and E. tenella infections – Alleviated all the challenge with lower shedding of oocysts and lower lesion scores in the duodenum, jejunum, and the ceca of broilers.

#### e) **Probiotics**

Prebiotics like Inulin, fructooligosaccharides, mannanoligosaccharides (MOS), and xylooligosaccharides feeding to control coccidiosis is a novel approach, and the mechanism depends upon the stimulation and growth of certain probiotic bacteria

# f) Non-starch polysaccharides (NSPs) degrading enzyme

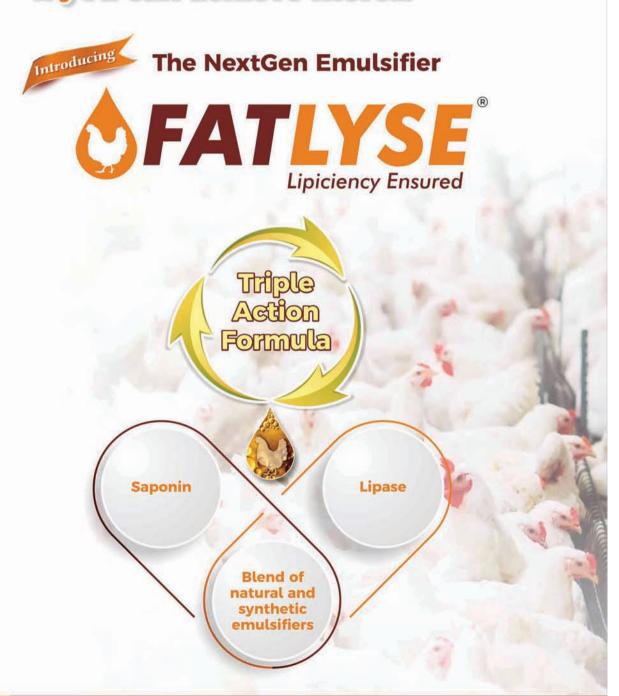
Dietary components influence the onset of Necrotic enteritis (NE).

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# Why are you satisfied with less, If you can achieve more...



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Cereals such as wheat, rye, oat, and barley contain higher levels of non-starch polysaccharides (NSPs) like β-glucans and arabinoxylans. High intestinal viscosity created by β-glucans or arabinoxylans from cereal grains may prolong gut transient time of digesta resulting in higher mucus production, and a decline in nutrient digestibility, thus allowing Clostridium to proliferate. Supplementation of NSP degrading enzymes such as xylanase, amylase, alpha-galactosidase, pectinase, and β-glucanase have shown to reduce the deleterious effects of NSP, reducing intestinal digesta viscosity, improving the nutrient digestibility of diets, and ultimately reducing dietary stress on the gut. Diets that have a higher proportion of NSPs, particularly based on wheat and have been supplemented with exogenous enzymes such as xylanase, have shown lower digesta viscosity thus lowering coccidiosis and the incidence of NE. Blends of acetic, butyric, and lactic acids have resulted in weight gain and feed conversion ratio benefits with elevated CD3+ T-cells. Blends of formic, acetic, propionic, sorbic, caprylic, and capric acids have resulted in low clostridial loads and improved feed conversion ratio in broilers

g) L-Threonine and Toxin binder Feed supplementation of birds with L-Threonine and Toxin binder improves performance, blood parameters, and Immune Response. Broilers are exposed to Aflatoxin B1 (AFB1) (@ 500 ppb) and supplemented with dietary L-Threonine (@100% and 125% of requirement) and Toxin Binder @ 1g/kg of feed) and evaluated growth performance, carcass traits, bloodbiochemical metabolites, enzymatic activities, immune response, serum antioxidant capacity, meat quality, tibia characteristics, intestinal morphometry, and cecal microflora were studied over the course of 5 weeks. AFB1 (@500ppb) mainly decreased breast meat yield, carcass percentage, serum urea, antibody titer against infectious bronchitis virus (IBV), and bone density, while it increased the plasma concentrations of glucose and alkaline phosphatase (ALP). Toxin binder improved the feed intake (FI), tibia fresh weight, and

body weight (BW) to bone weight. L-Threonine increased the feed intake, breast meat yield, serum aspartate transaminase (AST), and glutathione peroxidase (GPX). Combination of L-Thr and toxin binder without AFB1 improved breast meat and carcass percentage. L-Threonine and Toxin binder significantly improved IBV titer in birds challenged with AFB1.

# h) Control of Sudden Death Syndrome (SDS) by feeding strategies

A greater incidence of SDS has been recorded in broiler chicks fed with wheat-soybean meal diets than corn-soybean meal-based diets. The lower amount of biotin provided by wheat (biotin@o.o43 mg/kg of wheat) than corn (biotin @o.108 mg/ kg for corn) may have contributed to the increased mortality with wheat based meal. A lower incidence of SDS (50%) was recorded in 29-56 day-old broiler chickens fed with a 24% protein finisher diet, relative to birds fed a 19% protein finisher diet. The incidence of SDS also appeared to decrease when a meat meal was used in the diet. Birds fed with unsaturated oils (sunflower oil) had the lowest incidence of and mortality from SDS than broilers fed with a saturated fat (tallow). The levels of linoleic and arachidonic acids are higher when sunflower oil is used and decrease when tallow is used as a fat supplement. Using diets containing lower levels of calcium, phosphorus, potassium and magnesium, the incidence of SDS was successfully reduced. Excessive intake of vitamins A, D, E, C and niacin were found to be associated with a variety of metabolic lesions and adversely affect heart performance, leading to an increased risk of heart failure and SDS in broilers

# Future feeding strategies to improve poultry production heath and immunity

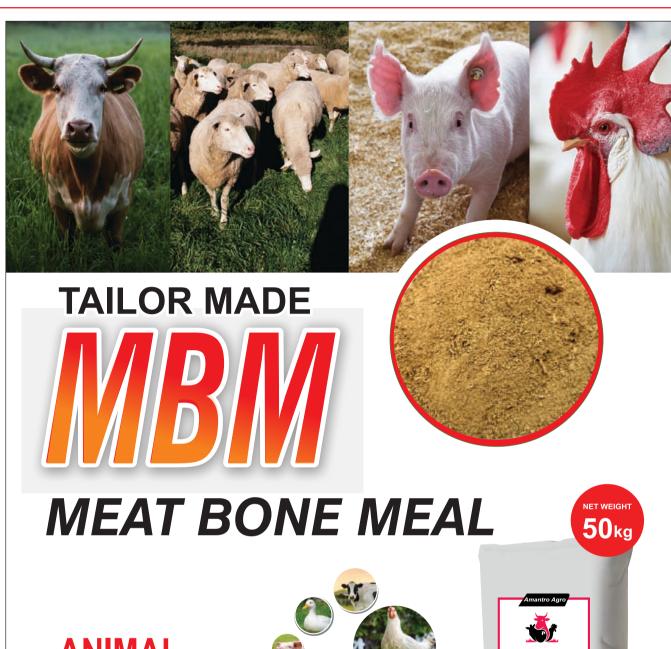
# Early nutrition programs

The perinatal period, late-term embryo and few days post-hatch is an important period for the development of the gastrointestinal tract (GIT) and the immune system of poultry. Early nutrition is one of the latest and successful methods to feed embryos and recently hatched chicks. Optimal feeding/dosing of

probiotics, prebiotics, exogenous enzymes, amino acids, hormones, and vaccines effectively improves favourable microbiota, improved immunity, and overall growth performance. In-ovo and posthatch feeding approaches improves histomorphology, microbiology and immunology. Chicks with earlier intake of water and nutrients may lead to a better overall growth performance. Delayed feeding may provoke for increased mortality. Each group of nutrients will have defined role probiotics supplementation in early life may prevent pathogenic infections, L-arginine, L-lysine, L-histidine, threonine amino acids supplementation may favour growth performance, vitamin C and E boost immunity, carbohydrates may increase glycogen stores, and creatine promotes muscle growth.

Studies reported that in-ovo injection of amino acids, trace elements, and fatty acids and vitamins into the amniotic cavity of late-term embryo improved the cell-mediated immunity in chicks. In ovo-amniotic cavity injection of fatty acid -linoleic acid ( $\omega$ -6 fatty acid) increased cell-mediated immunity while the injection of  $\omega$ -3 fatty acids of marine origin induced a humoral response. In-ovo feeding of arginine increases secretary immunoglobulin-A (sIgA) in the intestinal mucosa enhances the immunological barrier function of intestinal mucosa and improves the overall immunity and intestinal health of birds. Early nutrition is one of the latest and successful methods to feed embryos and recently hatched chicks. Optimal feeding/dosing of probiotics, prebiotics, exogenous enzymes, amino acids, hormones, and vaccines effectively improves favourable microbiota, improved immunity, and overall growth performance. It also helps to reduce mortality, developmental skeletal disorders. Commercial scale up to farm conditions, understand the embryonic development and nutrient metabolism process more precisely for broilers, layers and breeders are highly essential. In spite of changing consumer demands and regulatory pressures, the poultry industry has proven to be resilient and creative.

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# **IMPORTANCE OF** LITTER QUALITY IN **DEEP LITTER HOUSES**

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> Email: prashanth992@ gmail.com

In broiler production quality feed, chicks and water are all given more importance to maximize the profits. Litter management in broiler houses is a crucial aspect of poultry farming that's sometimes overlooked. Proper litter management is crucial for maintaining bird health, preventing disease outbreaks, and ensuring optimal growth rates. Litter management also given emphasis because birds are in continuous contact with litter. Litter is defined as the combination of bedding material, excreta, feathers, wasted feed and wasted water.

## Characteristics of good litter material:

- Ideal litter materials should absorb water and subsequently release the same to the atmosphere and minimize litter caking.
- · It must be soft, light in weight and free from sharp objects.
- It should be readily available in sufficient quantities and nontoxic in nature when accidentally consumed.
- Most importantly, it should be economical & cheap.
- In addition, bedding material must be compatible as fertilizer or soil amendment.

Bedding materials used in commercial broiler houses vary by region and the most common materials used in the India are Paddy husk, saw dust, coconut coir, peanut hulls, chopped straw, shredded paper and sand. Among all these, paddy husk is widely used, cheap and available in large quantities.

- As birds are in continuous contact with the litter material in broiler houses maintaining litter quality is very important.
- ► Litter moisture should not exceed 25 30 %.
- ► Raking litter 2-3 times / day is a must farm routine activity.
- ▶ Replace caked litter with fresh dry litter to prevent excess ammonia formation, irritation to eyes, breast blisters formation & coccidiosis in broilers.
- ► Keeping litter acidic by using litter conditioners can decrease ammonia release from litter as alkaline conditions favours microbial proliferation.



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# How litter quality affects the performance...??

If the broiler house environment is poor, birds do not perform to their full genetic potential. Air and house quality are highly dependent on litter quality. The litter environment (with excess moisture) is ideal for bacterial proliferation and ammonia production. The two factors that influence litter conditions most are manure and moisture. The manure portion is largely out of a producer control as it affected by number of factors; however, growers can and must control litter moisture. Excess moisture in the litter increases the incidence of breast blisters, skin bums, scabby areas, bruising, condemnations and downgrades. The wetter the litter, the more likely it will promote the proliferation of pathogenic bacteria, molds and emission of ammonia.

Most of the poultry producers underestimate the effects of ammonia. The human nose is able to detect ammonia levels near 15 parts per million (ppm) but will lose even this level of sensitivity with long-term exposure. Ammonia concentrations of 50 to 110 ppm can cause the human eye to burn and tear and induce possible health risks to farm workers. Human exposure should not exceed 25 ppm per 8 hours or 35ppm per 15 minutes. Chickens are also sensitive to ammonia. Prolonged exposure to high levels (50 to 100 ppm) can result in keratoconjunctivitis (blindness). However, ammonia levels of just 25 ppm have been found to depress growth and increase feed conversion in broilers.

- Ideally, litter moisture should be maintained between 20 to 25 percent. Ammonia production starts when litter moisture level crosses 30 %.
- A good rule of thumb in estimating litter moisture content is to squeeze a handful of litter. If it adheres tightly and remains in a ball, it is too wet. If it adheres slightly, it has the proper moisture content. If it will not adhere at all, it may be too dry.

- As time passes, used litter can become seeded with pathogens. High humidity, warm temperatures and high pH favors the proliferation of pathogens in the litter. Bad litter acts as predisposing factor for several viral and bacterial diseases known to spread easily through contaminated litter. In addition, fungi that produce mycotoxicosis and aspergillosis (Brooder Pneumonia) have been isolated in broiler litter.
- In India, coccidiosis is a serious problem whereas; good hygiene can greatly reduce the number of oocysts. Wet litter further aggravates coccidiosis by providing the proper environment for oocysts to sporulate.

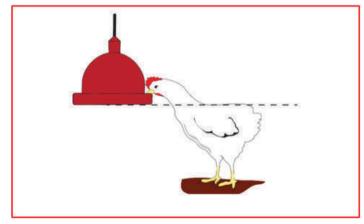
# Key Practices to Improve Litter Quality:

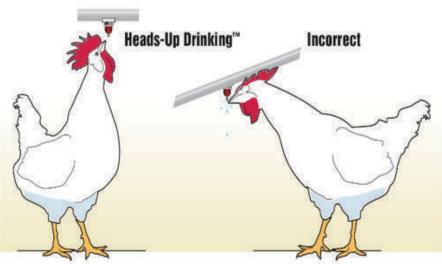
Factors that affect the litter moisture levels are 1) litter material storage conditions, 2) Nutrition i.e. ingredients, potassium and salt, 3) some drugs, 4) Drinker lines and height, 5) Humid environment, 6) foggers and 7) frequency of litter raking.

- Heating and ventilating the house 24 to 48 hours prior to chick placement will help to reduce ammonia release from litter during the initial days.
- Install circulation fans to move air within the house. The fans help litter dry by moving warm air off the ceiling and down to the floor.
- In negative pressure power-ventilated houses, use air inlets to bring fresh air into the house. When fans are on, static pressure should be maintained at .05 to .10 inches of water so air velocity through the inlets stays within the range of 600 to 1,200 feet per minute. This keeps cold air from dropping to the floor as it enters the house and promotes good air mixing.
- Check and manage watering systems to prevent leaks that will increase litter moisture. Adjust

drinker
height
and water
pressure as
birds grow
to avoid
excessive
water
wastage into
the litter.

 If leaks or spills occur and wet



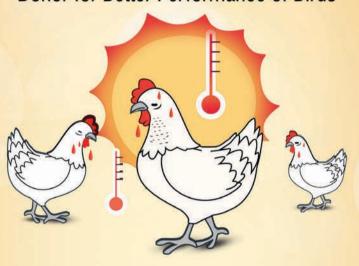


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Betaine HCL 98%

Benefits

Betaine act as osmolyte to prevent cell damage, protecting them from osmotic stress & dehydration by maintaining their water & ion balance. Reducing the negative effects of heat stress

As methyl donors, betaine sparing Methionine & Choline in birds diet to reduce feed cost

Increased absorption of nutrients & maintain gut integrity

Improved litter moisture level

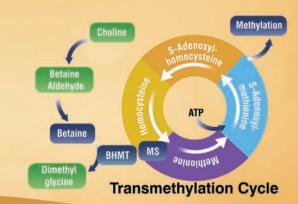
Improved resistance to coccidiosis

Improves carcass quality

Recommended Inclusion Level (Kg/MT of Feed)

Broilers - 0.5-1 | Layers - 0.2-0.5 | Breeders - 0.5-1.2

Presentation: 25 kg bag



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- litter develop, the affected litter should be removed from the house promptly and replaced with clean, dry bedding/litter material.
- Make sure no moisture is getting in from the outside. Check grading and drainage around the building to ensure that storm water is being diverted away and not causing a seepage issue under the pad.
- Remove cake with a housekeeping machine between flocks (rototilling is not recommended). Cake removal gets excessive moisture and manure out of the house, which, if left in the house, can contribute to elevated ammonia release from the litter in the ensuing flock. In most cases, these de-caking machines are more expensive than one grower can afford; however, several growers could share the equipment and reduce costs to a reasonable level. Take extreme care to completely disinfect such equipment before moving it from farm to farm.
- Maintain birds to nipple drinker's ratio of 1:10.

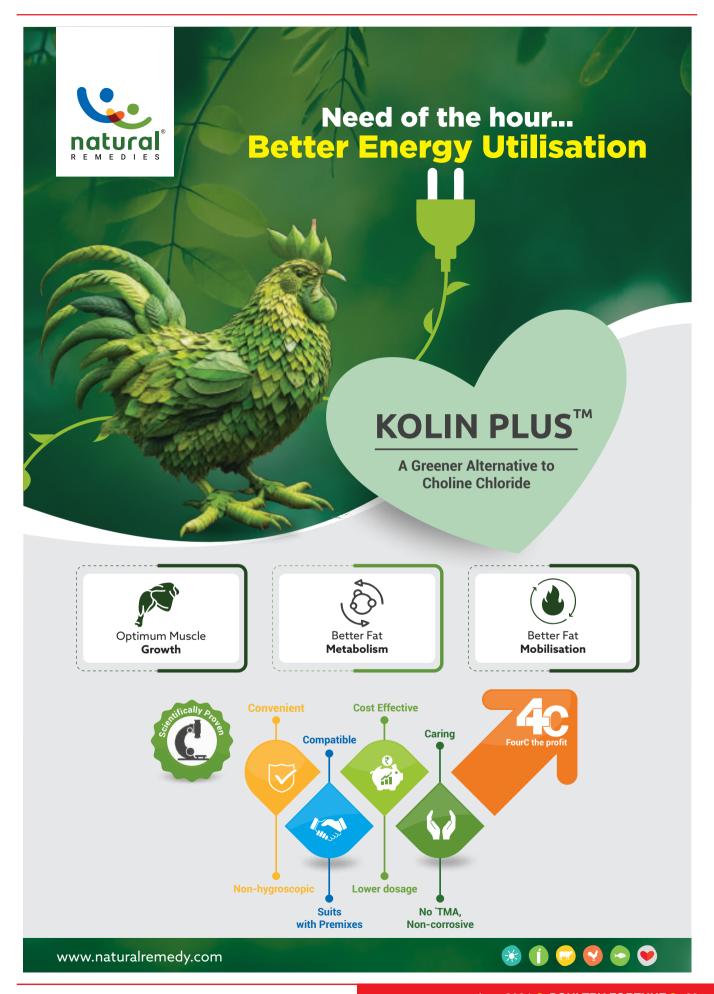
# Management of built-up litter quality:

- The initial thickness of litter should be 5 cm during summer and 7 cm during winter whereas the final litter thickness will be ranging between 10 to 12 cm depending on season and growing period.
- Successful litter management mostly depends on skilful management of litter moisture during the entire period of rearing. For instance, if new litter is not stored properly and becomes damp before it is spread as bedding material, wet litter problems may occur. It can be avoided by properly stirring litter, which is also called as raking.
- Sprinkle a mixture of wood ash and fertilizer grade superphosphate before raking litter, to prevent ammonia gas release from litter.
- Nutrition also influences litter quality as certain dietary

- ingredients (especially salt and potassium), when fed in excess, cause broilers to consume and excrete large amounts of water and result in wet litter conditions.
- Some drugs (diuretics) also stimulate excess water consumption and excretion.
- Environmental conditions such as wet and humid weather, condensation or very cold temperature can cause wet litter if the ventilation system is not able to eliminate moisture effectively.
- Drinker lines, foggers, and evaporative cooling pads, if not managed and maintained carefully, can contribute greatly to wet litter problems.
- Commercially available litter conditioner products fall into three categories
- 1. Acidifying agents that lower litter pH and thereby inhibit
- 2. Clay-based products that absorb odours and reduce ammonia release by absorbing moisture, and
- Products that act by inhibiting microbial growth and enzyme production through competitive exclusion and enzyme inhibition.
- The most effective products seem to be those that react chemically to lower the pH of the litter. The low pH creates an unfavorable environment for most bacteria, including those responsible for ammonia volatilization.
- Litter treatment products have varying levels of success in controlling the ammonia. Most of the chemical treatment products are only effective for less than three weeks during brooding and may have limited long-term impact on ammonia concentrations, especially during later stages of production.
- High litter moisture can reduce the effective life of the products even more. Applying the product over the equipment can leave a portion of the litter untreated and can

- damage equipment over time. It is extremely important to emphasize that litter treatments are not a substitution for good ventilation. Some producers mistakenly believe that the use of litter treatments can reduce minimum ventilation levels. Providing inadequate minimum ventilation can potentially lead to more ammonia volatilization with the amendments than without their use. Proper house preparation, amendment application and litter management are essential factors that need to be met to maximize the effectiveness of litter treatment products.
- The potential benefits of litter treatment products will continue to expand beyond improving bird performance. Products that reduce ammonia volatilization, enhance composition of the litter for fertilizer value and reduce foodborne pathogens will continue to be improved and their use will likely expand.
- Since, ancient times using lime as a drying agent has been a common practice in agricultural buildings. However, chemically speaking, lime is highly basic. Ammoniaproducing microorganisms flourish in a more neutral or basic environment. When applied to poultry litter or the floor of a poultry house, lime will raise the pH, thereby facilitating the generation and release of ammonia from the litter and floor soil. As a general rule, lime products are not recommended for use in poultry houses.
- A better alternative to using lime as a drying agent in poultry houses is the use of absorbent clays.
   Absorbent clay products have an increased water holding capacity that is 5 to 10 times greater than lime due to smaller, more numerous pores. Clay-based drying agents, either with or without ammonia-reducing chemical additives, are an excellent material to treat wet floors and spill areas.

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## Disposal of poultry manure

- Oxidation ditches: Aerobic fermentation of manure occurs in open ditches. Bacteria decompose organic matter into simpler substances like CH4 /NH3 sludge and liquid manure, which can be used as NPK (fertilizer) elements in agricultural fields. The solid sludge contains vitamin B12 and minerals, which is a good source of feed in the animals after proper processing.
- Solid disposal: The stacked heap of manure on compression generates heat inside litter and kills microbes making the material sterile, which can be used as fertilizer. Some people prefer to spread the manure on the ground in thin layers, which dries fast and can be applied to soil as good fertilizer.
- Lagoons: Shallow covered ponds in which manure is dumped along with liquid waste and covered are called lagoons. Here, anaerobic fermentation decomposes manure and after 3-5 months enriched manure can be obtained.

# **Utility of poultry litter:**

- Poultry manure is richer as fertilizer when compared with cow dung. It contains about 3, 2, and 2 percent nitrogen, phosphorus, and potash (NPK), respectively, which are major fertilizer constituents.
- A hen produces about 16 kg dried manure per annum in cage, whereas a broiler produces around 1.5 kg manure till marketable age. It can be used as a good fertilizer for a wide variety of field crops. As it contains a fair amount of protein and energy it can be used as cattle, pig, fish, and poultry feed ingredient after proper processing and drying.
- Processing poultry litter is necessary for destruction of potential pathogens, improvement of handling and storage characteristics, and maintenance or enhancement of palatability. Poultry litter can be used up to a certain level (5 to 10%) as a feedstuff for cattle. The anaerobic digestion of organic wastes results in the generation of biogas. Poultry manure may be increased at 15-20% level along with cow dung.
- Non-contaminated properly dried poultry manure can be recycled as poultry litter again.

#### Recycling of old litter:

• The old litter can be recycled after treatment. The common treatment followed will be heaping and re-heaping. During re-heaping, the top layer of the previous heap will go to the bottom and the bottom layer will come to the top. During heaping and re-heaping the litter get fermented, which will generate sufficient heat to kill all the harmful microbes and make it safe for the next batch of birds reared on it. While heaping, a disinfectant solution should be sprayed on the floor and heaped litter to reduce the microbial load. The heaping period may be up to 7-10 days after

which the litter is sprayed again to rear the next batch of broilers. The used litter may be reused up to 2 times after treatment. If any serious outbreak has occurred in the previous batch the same litter must not be used again. Before recycling the old litter (built-up litter) the price and availability of fresh litter must be considered.

#### **Conclusion:**

The practice of built-up litter requires a higher degree of management to be successful. Growers need to be alert to changes in litter quality and take actions to maintain an appropriate in-house environment for optimal bird performance. Controlling litter moisture coupled with the use of litter amendments can help growers manage litter quality. Proper litter management helps to improve inhouse air quality. Any investment growers and integrators make in maintaining ideal environmental conditions for their broilers can potentially return a significant dividend.



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# SENSORY EVALUATION METHOD FOR POULTRY FARM CONDITIONS



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Engaged in R & D activities at Avian Nutrition and Feed Technology Division
(ICAR-Central Avian Research Institute) Currently standardizing Nutrient

(ICAR-Central Avian Research Institute) Currently standardizing Nutrient requirements for improved native chickens and Quality assessment of Feed ingredients at various Diversified poultry farms.

E-mail: nilay1007@gmail.com

#### **Article**

Poultry farmers understand the importance of their birds' health for successful production. Daily tasks like feeding and watering present a perfect opportunity to inspect the flock's well-being. By using their senses, farmers can become adept at identifying signs of illness and preparing for potential problems.

Remember, a healthy flock equates to a profitable one. A skilled poultry farmer is constantly attentive to the welfare, health, and environment of their birds. Close observation of coop conditions and the ability to identify unusual behaviours are crucial. Fortunately, the Five Sense Method of Evaluation provides a valuable tool for monitoring your flock's health. We possess five senses, powerful tools for perceiving our surroundings and everything within them. These senses prove invaluable for observing and monitoring the health of a poultry flock. The Five Sense Method of Evaluation emphasizes the importance of utilizing these senses effectively.

# **HEARING:**

The sounds made by the birds is a good indication of what they are feeling.

For a rough guide to how your

Poultry raisers can lucrative guarantee a poultry population giving precedence to the health of their birds. Daily tasks such as feeding and watering present an optimal chance to assess their welfare through the Five Sense Method. This approach underscores the importance of employing sight, hearing, touch, smell, and taste to detect any indications of sickness and uphold a wholesome coop atmosphere by carefully observing bird conduct and surroundings.

birds are feeling and what their intentions are, you can listen out for certain qualities in chicken noises. Brief, quiet, low notes are in this way, group chatter remains private to the flock, used for contented, communal calls, while loud, long, high pitches indicate fear, danger, or distress. avoiding eavesdropping by predators, while warnings are heard

by the whole flock, even though the caller, usually the rooster, puts himself in some danger by giving the call. Rising pitches indicate pleasure, whereas falling pitches signal distress, especially in chicks, whose calls alert their mother to attend to their needs. Urgency or excitement is portrayed by the rapidity and irregularity of repetition. A sudden explosion of sound also indicates urgency.



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Wavering notes signal disturbance or distress. White noise is designed to repel or warn. In fact, these vocal qualities are common to many animal species' calls, and they can help us to form an instinctive feeling for what these chicken noises mean.

- 1. The chirpiness of the birds and their vocalization could indicate if they are hungry or cold.
- 2. Respiratory sounds could mean the birds are suffering from an ailment.
- 3. If a knocking noise is heard when the birds are pecking at the feeders, it could mean that the containers are empty.

#### SIGHT:

Watching bird behaviour can help a farmer identify problems in the coop.

 Bird Respiration: If the birds are panting or breathing abnormally it could be suggestive of heat stress or a respiratory disease.

- Bird Behaviour. When behaving normally birds divide their time between feeding, drinking, and resting. Anything outside this can be seen as abnormal behaviour.
- 3. Litter Conditions: Farmers should look out for: Water spillage from drinkers, spilled feed, parasitic infections, and other problems in the coop etc.
- 4. Colour of Faeces-

#### 1) Greenish -

Systemic disease (e.g., E. coli infection, Newcastle disease, infectious bronchitis, leucocytozoonosis, coryza, avian influenza, lymphoid leukosis).

## 2) Orange/Red -

This colour may be due to an increased level of intestinal cell sloughing and/or mucus. Check mucus section.

## 3) White -

Kidney disease, viral infections (e.g., infectious bronchitis) or bacterial infections.

Immune disease (e.g., infectious bursal disease, lymphoid leukosis)

Mouldy ingredients (e.g., mycotoxins (like aflatoxin, ochratoxin)

Drugs (e.g., sulpha, gentamycin) have been over-used.

## SMELL -

The odours from the coop can be a telling sign of the conditions within.

1. Sour:





- VFAs are produced during the decomposition of organic matter, including manure. They contribute to the characteristic "sour" smell in poultry facilities.
- Conditions: VFAs are more pronounced when manure accumulates and undergoes anaerobic decomposition (in the absence of air).

## 2. Rotten egg:

- Mercaptans are sulphur-containing compounds responsible for the "rotten egg" Odor.
- Conditions: Mercaptans are released when manure decomposes under low-oxygen conditions.

## 3. Fruity or Sweet:

- Esters contribute to fruity or sweet smells.
- Conditions: Esters are formed during the breakdown of organic materials, especially when moisture levels are high.

#### 4. Pungent:

- Ammonia has a pungent, irritating odour.
- Conditions: Ammonia is more noticeable near manure storage areas or buildings but dissipates

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# **A.P. POULTRY EQUIPMENTS**

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quickly in the atmosphere due to its high volatility.

# medicinal or disinfectant-like smell:

- Phenols have a medicinal or disinfectant-like smell.
- Conditions: Phenols can result from the breakdown of lignin in bedding materials or manure.

#### 6. Dust and Feed Spoilage:

- Dust particles and spoiled feed can also add to the overall odour in poultry facilities.
- Conditions: Dust is generated during feed handling, and feed spoilage occurs when feed becomes mouldy or rancid

#### **TASTE AND TOUCH:**

Touch and taste are another good method of checking coop conditions.

- 1. A farmer should check the water and feed quality regularly.
- 2. He/she should check the ventilation in the coop and make sure there is a comfortable air flow.
- 3. The feed should be checked to see if the crumbs are too dusty or pellets too hard.
- 4. The litter conditions can be checked by picking up a handful of



litter, compressing and releasing to see if it is free flowing or clumpy. Clumping suggests that the litter is too moist.

Five Sense Method of Evaluation will help a farmer become familiar with normal bird behaviour and he/she will gradually be able to identify any changes in behaviour.

While observing bird behaviour a farmer must regularly maintain and analyse farm records on Growth, Feed and Water Consumption, Bird

Mortality, Feed Conversion Ratio (FCR) etc.

A combination of observation and record keeping will help the farmer to identify and correct any shortfalls in performance. Five Sense Method of Evaluation combined with the farmer's knowledge, experience and skills in husbandry will produce a well-rounded farmer who will have the personal qualities such as Patience, Dedication and Empathy when working with the birds.



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# VAKSIMUNE® IBD M+

Protect chickens against IBD / Gumboro Disease.

# Composition:

Moulthrop M+ Strain at least 10<sup>3</sup> EID<sub>50</sub>/ Dose Infectious Bursal Disease Intermediate Plus Strain Live Vaccine, Freeze Dried.

# **Benefits:**

- Safe, potent efficacious and effective vaccine in the category.
- Suitable for all type of birds viz. broiler, layer and breeder.
- Onset of immunity is immediate within 48 hours post-vaccination.
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Commercial broiler: Day 12

Commercial layer: Day 14 - Day 24 Breeder parent: Day 13 - Day 23

Consult poultry veterinarian for vaccination program

Moulthrop M

# Route of administration:

Oral Drop or Drinking Water





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