JULY 2024

MONTHLY BILINGUAL

INR 300/-

POULTRY PLANNER

R.N.I. 71668/1999 Title Code HARBIL00563

Vol. 26 | No. 07 | July - 2024

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From the Editor's Desk

The Imperative of Biosecurity in Poultry Farming

In the dynamic landscape of modern agriculture, poultry farming stands as a cornerstone, providing essential protein through meat and eggs to millions worldwide. Yet, beneath this veneer of productivity lies a latent threat—disease outbreaks that can decimate flocks, endanger human health, and destabilize economies. This underscores the crucial need for stringent biosecurity measures in poultry farming.

Biosecurity refers to the strategic and practical measures taken to prevent the introduction and spread of infectious diseases within and between animal populations. For poultry farming, this means a comprehensive set of practices designed to shield flocks from pathogens that can cause devastating diseases such as avian influenza, Newcastle disease, and Salmonella. The implementation of robust biosecurity protocols is not merely an option but a necessity for sustainable poultry farming.

The necessity of biosecurity is first and foremost about disease prevention. Poultry, by their nature, are highly susceptible to infectious diseases that can spread rapidly through a flock. The economic ramifications of an outbreak can be catastrophic, leading to mass culling, loss of production, and severe financial strain on farmers. Beyond the immediate economic impact, disease outbreaks can lead to long-term consequences, including trade restrictions and loss of consumer confidence in poultry products.

Furthermore, many poultry diseases are zoonotic, meaning they can be transmitted from animals to humans. The recent history of avian influenza outbreaks serves as a stark reminder of the potential for these diseases to jump species barriers, posing significant risks to public health. Effective biosecurity measures are vital in mitigating these risks, protecting farm workers and the broader community.

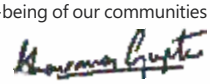
In addition to health and economic benefits, biosecurity practices play a crucial role in ensuring food safety. Pathogens like Salmonella and Campylobacter, which can be present in poultry products, are significant causes of foodborne illnesses in humans. By implementing rigorous biosecurity measures, farmers can significantly reduce the prevalence of these pathogens, thereby enhancing the safety of poultry meat and eggs.

Implementing biosecurity is not without its challenges. It requires a commitment to best practices, including farm design, controlled access, hygiene protocols, and continuous monitoring and evaluation. This involves substantial investment in infrastructure, training, and resources. However, the benefits far outweigh the costs. Healthier flocks mean better productivity and profitability, reduced mortality, and fewer economic losses due to disease outbreaks.

Moreover, the environmental benefits of biosecurity should not be overlooked. Effective waste management and reduced use of chemical disinfectants contribute to environmental sustainability. By preventing disease outbreaks, farmers can minimize the need for drastic measures such as mass culling and disposal of infected carcasses, which have significant environmental impacts.

The imperative of biosecurity in poultry farming cannot be overstated. It is a critical component of a sustainable and resilient agricultural system, ensuring the health and welfare of poultry, protecting public health, and safeguarding the economic viability of the poultry industry. As the world continues to grapple with the challenges of disease prevention and food security, biosecurity in poultry farming stands out as a beacon of responsible and forward-thinking agricultural practice.

Farmers, policymakers, and the agricultural industry must prioritize and invest in biosecurity to build a healthier, safer, and more sustainable future for poultry farming. The time to act is now, for the health of our flocks and the well-being of our communities depend on it.



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- Unpublished material of industrial interest, not submitted elsewhere, is invited.
- The submitted material will not be returned.
- Publisher, Printer Mr. Vishal Rai Gupta on behalf of Pixie Publication. Printed at Jaiswal Printing Press, Chaura Bazar, Karnal-132001 (Haryana).
- Published at : Anand Vihar, near gogripur railway crossing, hansi road, karnal-132001 (Haryana)
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Biosecurity Practices in Poultry Farming: Ensuring Healthy Flocks and Safe Food Supply

Siddhi Gupta, Parth Rai Gupta
Co-Editor

Poultry farming is a critical component of the global agricultural industry, providing a significant source of protein through meat and eggs. However, the industry faces numerous challenges, including disease outbreaks that can devastate poultry populations and pose risks to human health. Biosecurity practices are essential to mitigating these risks, ensuring the health of poultry flocks, and maintaining a safe and sustainable food supply.

Necessity of Biosecurity in Poultry Farming

Disease Prevention

One of the primary reasons biosecurity is necessary in poultry farming is disease prevention. Poultry are susceptible to a range of diseases, including avian influenza, Newcastle disease, and Salmonella. These diseases can spread rapidly within and between flocks, leading to high mortality rates and significant economic losses.

Human Health Protection

Many poultry diseases are zoonotic, meaning they can be transmitted from animals to humans. Avian influenza, for example, has caused several outbreaks in humans, sometimes with fatal outcomes. Effective biosecurity measures can reduce the risk of zoonotic disease transmission, protecting farm workers and the general public.

Economic Stability

Disease outbreaks in poultry can lead to severe economic consequences, including the loss of entire flocks, decreased production, and trade restrictions. Implementing robust biosecurity practices helps ensure the stability and profitability of poultry farms by preventing or minimizing the impact of disease outbreaks.

Environmental Protection

Disease outbreaks can also have environmental consequences, such as the disposal of infected carcasses and the use of chemical disinfectants. By preventing diseases, biosecurity measures contribute to environmental sustainability by reducing the need for these practices.

Importance of Biosecurity in Poultry Farming

Maintaining Poultry Health and Welfare

Healthy poultry are more productive and have better welfare. Biosecurity measures help maintain the health and welfare of poultry by preventing diseases that cause suffering and death. This aligns with ethical standards and public expectations regarding animal welfare.

Ensuring Food Safety

Biosecurity practices are crucial for

ensuring food safety. Diseases like Salmonella and Campylobacter can contaminate poultry products, posing risks to consumers. By preventing these diseases, biosecurity measures help ensure that poultry meat and eggs are safe for consumption.

Supporting Public Health

By preventing zoonotic diseases, biosecurity practices support public health. This is particularly important in areas where poultry farming is closely integrated with human communities. Effective biosecurity reduces the risk of diseases spreading from poultry to humans, protecting community health.

Facilitating Trade

Poultry products are traded globally, and countries impose strict regulations to prevent the spread of diseases through international trade. Farms with strong biosecurity practices are better positioned to meet these regulations, facilitating access to international markets and supporting the global poultry trade.

Management of Biosecurity in Poultry Farming

Effective biosecurity management involves a comprehensive approach that includes farm design, operational practices, and ongoing monitoring and evaluation. Here are key components of managing biosecurity in poultry farming:

Farm Design and Infrastructure

Site Selection

Choosing an appropriate site for poultry farming is the first step in biosecurity management. Farms should be located away from other poultry farms and areas with high wild bird populations to reduce the risk of disease transmission.

Controlled Access

Farms should have controlled access points to limit the entry of unauthorized personnel and vehicles. This includes fencing the perimeter and installing gates that can be locked.

Biosecure Buildings

Poultry houses should be designed to prevent the entry of wild birds, rodents, and other potential disease carriers. This includes using bird-proof netting, solid walls, and sealed doors and windows.

Operational Practices

Personnel Management

Farm workers are a potential source of disease introduction. Biosecurity protocols should include guidelines for personnel hygiene, such as wearing clean clothing and

footwear, handwashing, and using footbaths or disinfectant mats at entry points.

Visitor Control

Visitors should be minimized, and those who must enter the farm should follow strict biosecurity procedures, including wearing protective clothing and disinfecting footwear and hands.

Equipment and Vehicle Sanitation

Equipment and vehicles that enter and leave the farm can carry pathogens. Regular cleaning and disinfection of equipment and vehicles are essential to prevent disease spread.

Feed and Water Management

Feed and water sources can be contaminated with pathogens. It is crucial to source feed from reputable suppliers, store it properly to prevent contamination, and ensure water is clean and free from pathogens.

Animal Health Management

Vaccination

Vaccination is a key component of disease prevention. Poultry should be vaccinated against common diseases according to recommended schedules.

Health Monitoring

Regular health monitoring, including visual inspections and diagnostic testing, helps detect diseases early. Sick birds should be isolated and treated promptly to prevent the spread of disease.

Quarantine Procedures

New birds introduced to the flock should be quarantined for a period to ensure they are not carrying diseases. This prevents the introduction of new pathogens to the existing flock.

Waste Management

Proper waste management is crucial for biosecurity. Manure, litter, and dead birds should be disposed of in a biosecure manner, such as composting or incineration, to prevent the spread of disease.

Ongoing Monitoring and Evaluation

Biosecurity is an ongoing process that requires continuous monitoring and evaluation. Regular audits and assessments can identify weaknesses in biosecurity practices, allowing for timely improvements.

Benefits of Biosecurity in Poultry Farming

Improved Poultry Health and Productivity

Effective biosecurity practices lead to healthier poultry flocks, which are more productive. Healthy birds have better growth rates, higher egg production, and improved feed efficiency, contributing to the overall profitability of the farm.

Reduced Disease Outbreaks and Mortality

Biosecurity measures significantly reduce the incidence of disease outbreaks and associated mortality. This not only saves the lives of birds but also reduces the economic impact of disease outbreaks.

Enhanced Food Safety

By preventing diseases that can contaminate poultry products, biosecurity practices enhance food safety. This helps build consumer trust and meets regulatory standards for food safety.

Protection of Human Health

Preventing zoonotic diseases through biosecurity practices protects the health of farm workers and the general public. This is particularly important in preventing pandemics and other public health crises.

Economic Stability and Sustainability

Biosecurity contributes to the economic stability and sustainability of poultry farming. By preventing disease outbreaks, farmers can avoid the significant costs associated with disease control, lost production, and trade restrictions.

Environmental Benefits

Preventing disease outbreaks reduces the need for disposing of infected carcasses and using chemical disinfectants, contributing to environmental sustainability. Proper waste management practices also protect the environment from contamination.

Market Access and Trade

Strong biosecurity practices enable farms to meet the stringent requirements of international markets, facilitating trade and supporting the global poultry industry. This helps farmers access new markets and expand their business opportunities.

Conclusion

Biosecurity in poultry farming is a multifaceted approach that encompasses farm design, operational practices, and ongoing monitoring and evaluation. It is essential for preventing disease outbreaks, protecting human health, ensuring food safety, and maintaining economic stability. The benefits of effective biosecurity are far-reaching, contributing to improved poultry health and productivity, enhanced food safety, protection of human health, economic sustainability, and environmental protection. By prioritizing biosecurity, poultry farmers can ensure the health and welfare of their flocks, produce safe and high-quality products, and support a sustainable and thriving industry.

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Introduction

In chicken husbandry, anomalies or flaws in the eggshells laid by hens are referred to as eggshell issues. Thin, cracked, or rough-textured shells are a few examples of these problems. Eggshell issues are important to producers because they can lead to worse egg quality, more breaking during handling and shipping, and less marketability. They may also point to underlying health problems in the flock, such as illnesses or nutritional deficits, which must be treated to preserve the general well-being and productivity of the flock.

Factors affecting eggshell quality-

- Adequate levels of calcium, phosphorus, vitamin D, and other nutrients are important for maintaining strong eggshells.
- Various breeds of chickens may lay eggs with varying shell quality.
- The age of the hen is also a very crucial factor as older hens tend to produce eggs with thinner shells.
- Overcrowding or disturbances can impact shell quality.
- Various diseases like calcium deficiency and infectious bronchitis decrease shell thickness.
- High heat, humidity levels, and lighting can affect eggshell quality.
- Proper housing, hygiene, and handling practices can impact eggshell integrity.
- Access to clean water is essential for eggshell formation.

Common eggshell problems

- Thin shells-Poor shell development or a calcium deficit are the causes of thin shells.
- Rough shells-rough shells are result of dietary deficiencies, viral illnesses, or environmental stresses.
- Soft shells: Usually the result of inadequate calcium absorption or a lack of vitamin D.
- Misshapen shells: May result from stress during egg development may be hereditary.
- Dirty shells: Caused by unclean habits or contaminated nesting locations.
- Cracked shells: Result from hard treatment, insufficient nesting supplies, or calcium abnormalities.
- Double yolks: Usually the result of genetics or hormonal abnormalities, they occur when two yolks are discharged into the oviduct at the same time.
- Shell-less eggs: Occurrences related to the reproductive system or disturbances in the egg-laying process.

Diagnosis and management

- Usually, a combination of visual inspection, physical examination, and laboratory testing is used to diagnose eggshell issues. Checking for irregularities in eggshell appearance, such as roughness, fissures, malformations, or discoloration.
- Examining eggs by palpating them to determine the thickness and strength of their shells and to feel for any irregularities in the eggshell membrane. examining eggshell pieces under a microscope to look for indications of structural flaws or abnormalities.
- Measuring the thickness of eggshells with specialist equipment to help detect weak or thin shells. testing in the lab to determine the calcium content, density of the shell, and mineral makeup in order to determine the quality of the shell.
- examining environmental circumstances, management techniques, and food in order to determine the possible causes of eggshell issues.
- Blood and tissue samples may be examined in cases of suspected nutritional deficits or metabolic diseases in order to determine any underlying problems influencing the development of eggshells. evaluating the existence of microorganisms or infections that could compromise the quality of eggshells.
- use X-rays to check eggs for structural flaws or interior anomalies that could be a factor in issues with the eggshell. Endoscopy can occasionally be performed to look inside a bird's reproductive system in order to find possible problems that could be influencing the development of its eggshells.
- Several tactics are used to manage eggshell issues in chicken production in order to maintain the flock's well-being and output. For the creation of eggshells, it is essential to provide a balanced diet that contains sufficient amounts of calcium, phosphorus, vitamin D3, and other essential nutrients.
- Make sure the feed is designed with laying hens' unique

requirements in mind. Give the chickens access to a separate feeder containing a calcium source, such oyster shell or limestone, so they can eat it as needed to produce shells.

- Make sure the water the birds drink is pure and uncontaminated because bad water can have a detrimental effect on the quality of the eggshells.
- Keep the poultry house at the ideal temperature, humidity, and ventilation levels to reduce stress in the birds, as this might affect the quality of the eggshells.
- Keep the poultry house at the ideal temperature, humidity, and ventilation levels to reduce stress in the birds, as this might affect the quality of the eggshells.
- Establish a stringent biosecurity program to stop the spread of illnesses like Newcastle disease and infectious bronchitis that can decrease eggshell quality. Through selective breeding efforts, specific chicken breeds or strains recognized for high-quality eggshells are selected. During egg collection, grading, and transportation, handle the eggs with caution to prevent harm to their shells.
- To see any patterns or problems that need to be addressed, regularly check the condition of the eggshell and maintain thorough records of egg production and shell quality.

Economic impact

- In the poultry industry, eggshell issues can have a big financial impact on farmers. Eggs with weak or faulty shells are more likely to break when being handled, transported, and stored, which can directly cost money because the eggs are less marketable.
- Furthermore, because of their inferior quality, these eggs might sell for less money if they make it to market. Indirect expenses may also include handling and sorting damaged eggs more labor-intensively and possible health risks in the event that the eggs are infected.
- Producers frequently spend time on strategies to enhance shell quality, including dietary modifications, environmental restrictions, and genetic selection, in an effort to lessen these effects.

Future directions and research needs

- Study how nutrition—such as calcium, phosphorus, vitamin D, and trace minerals—affects the development of eggshells. Shell abnormalities can be avoided by being aware of the ideal nutrient levels and balance.
- In order to produce chicken with better eggshell quality attributes, keep researching genetic selection techniques. This entails finding genetic markers linked to robust shells and applying them to breeding initiatives.
- Examine how environmental stresses including humidity, temperature swings, and lighting affect the quality of eggshells. Stressors can have a minimal impact on egg production by being identified and managed.
- Examine the connection between eggshell quality, illness prevalence, and poultry health. Finding illnesses or health problems that affect shell integrity and creating preventative and therapeutic measures should be the main goals of research.
- Examine various housing arrangements, such as conventional, cage-free, and free-range setups, to ascertain how they affect the quality of the eggshell. Best methods for managing poultry can be influenced by knowledge of how housing circumstances affect shell formation.
- Examine how different component combinations affect the quality of eggshells and how they are used in chicken feed recipes. This involves researching how new feed components, supplements, and additives affect the thickness and strength of the shell.
- Create and put innovative technology into use, like automated monitoring systems or non-destructive imaging methods, to evaluate the quality of eggshells. These tools can give producers immediate feedback and aid in the early detection of possible problems
- To evaluate the cost-effectiveness of programs targeted at enhancing eggshell quality, do economic analysis. It is vital for producers to comprehend the possible return linked to the adoption of novel technologies or the implementation of improved management practices.

How to compare different phytases for use in poultry feed

LODE NOLLET, GLOBAL PRODUCT MANAGER, HUVEPHARMA

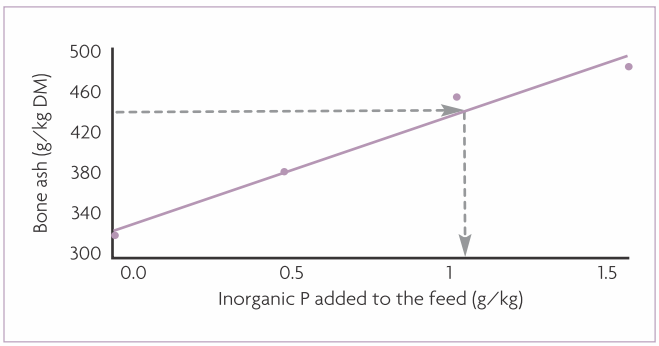
Exogenous phytase is added to poultry feed to liberate phosphorous (P), bound as phytate in raw materials, with the aim of lowering feed costs by reducing the amount of inorganic P added to the diet and having a degradation of phytic acid, known as an anti-nutritional factor in feed. Both actions lead to an improved poultry performance.

COMPARING PHYTASES: bone ash and digestibility studies

In order to compare different phytases on their potential to release P from phytate, trials are often conducted by adding the phytase at different inclusion levels to a P deficient diet. Technical performance is measured alongside parameters related to P digestion by the animal. This can either be the measurement of bone ash or by calculating a P digestibility value.

In the bone ash method, a feed deficient in P is fed to the animal. This leads to poor bone formation, substantiated by a low bone ash content. Adding inorganic P to the feed (MCP or DCP) leads to a reduction of the P deficiency, resulting in a better bone formation & higher bone ash in the bird (Fig. 1).

Fig. 1. Correlation between phosphorous in feed and bone ash, and estimation of P equivalency for a phytase based on bone ash (arrows).



This way, a 'calibration curve' between P added to the feed and bone ash is produced. Adding a phytase at a certain level to the P deficient feed will also reduce its P deficiency due to the liberation of P from phytate, leading to a higher bone ash content. With the latter value, and using the calibration line, the equivalent P (from MCP or DCP) value can be estimated for this phytase (see arrows in Fig. 1).

Alternatively, P values of a phytase can be estimated from digestibility studies, similar to trials conducted for protein digestibility.

In brief, P intake in the bird is measured, while P excretion (in manure) or P levels in the end part of the intestine are also determined. Based on these values, and using an indigestible marker in feed, the amount of P retained or digested by the animal can be calculated.

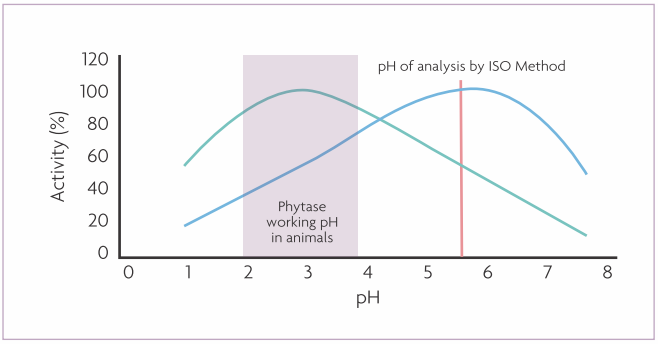
Adding a phytase to this feed will reduce the P level at the intestinal level and in faeces, which allows the calculation of a digestible P value for the phytase.

Based comparisons based on equal FTU per kg of feed inclusion The way to determine the levels of different phytases to be included in the feed in order to compare them can already skew the outcome of the trial. In comparative trials, it is often seen that the activity of the different phytases is 'quantified' using the official method (ISO 30024:2009) expressed in FTU per gram pure phytase product.

Based on this analytical result, the different phytases are then dosed to reach a certain inclusion level, for example, 500, 1000 or 1500 FTU per kg of feed. However, this is not the correct way, as explained below, as every phytase has its own pH profile.

The ISO The ISO method is measuring the activity of the phytase at pH 5.5, while it is common knowledge that phytases need to work at levels between pH 2 and pH 4 (Fig. 2). The phytase indicated in blue in Fig. 2 has a pH optimum at 5.5, while the phytase indicated in green has pH optimum around 3.5, meaning that the latter will perform better in the animal.

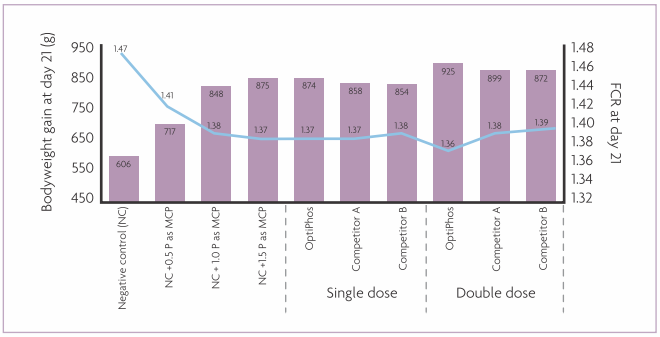
Fig. 2. pH profile of two phytases – pH area at which phytase needs to work in the animal, vs pH at which phytase activity is measured using the ISO method.



When the activity of both phytases is determined by the ISO method (at pH 5.5) it can be seen that the blue phytase will have a higher activity (for instance 10,000 FTU/g), while the green phytase has a lower activity at this pH (for instance 5,000 FTU/g).

According to this trial protocol, one should then add 50g of the blue phytase, but 100g of the green phytase per kg of feed in order to reach 500 FTU/kg (pH 2 to 4; this is the green phytase) and a lower activity measured at pH 5.5.

Fig. 3. How to set up a phytase trial with the appropriate inorganic controls and different phytases at inclusion levels proposed by the supplier.



HOW TO DO IT BETTER

From a commercial point of view, the main question for the feed industry is: how many grams of a commercial phytase product, with a certain declared activity, with a certain claim for P and with a certain price, are comparable?

Indeed, every phytase has its own phytase unit based on its own analytical method, and this phytase unit corresponds to a certain P or dig. P value declared by the supplier. For instance, a trial could be set up in which a feed, not deficient in P (= positive control) is reduced in P by 0.5, 1.0 and 1.5g/kg (negative controls). To these feeds, each of the phytases is included at the supplier recommended inclusion levels to compensate for the 0.5, 1.0 and 1.5g reduction.

By doing so, it can be validated, based on technical performance, bone ash analysis and/or P digestibility, if the matrix value for P proposed by each phytase supplier is correct. At the same time, all phytases can be compared on technical performance, including economic performance, as these are the drivers for the correct choice of a phytase.

It should, of course, also be clear that when comparing phytases, the same form (liquid, granular of coated) should be used. It is well known that coatings might hinder the release of a phytase, which can impact its P release from phytate. As phytate degradation needs to take place in the first part of the intestine (gizzard), a reduced release of phytase might impact its effect.

CONCLUSION

It is quite clear that the set-up of trials to compare different phytases needs to be done properly in order to provide practical answers to the nutritionist.
This means comparing different phytases at their recommended inclusion levels, taking into account their proposed matrix values for phosphorous and their price, and not based on their FTU activity measured at pH 5.5. In this way, an easier and more correct comparison can be made based on the technical and economic performance obtained.

To know more, please contact Huvepharma technical team

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Alltech's Poultry School Series Highlights Advances in Poultry Nutrition Research

Alltech, a global leader in animal health and nutrition, concluded a highly successful Poultry and Layer School series held across three different locations during the first week of July. The seminars, which took place in Namakkal, Panchkula and Karnal, attracted an audience of nearly 400 from diverse areas of the poultry industry, including farmers, nutritionists, veterinarians, and other professionals.

The sessions provided a comprehensive platform for participants to engage with Alltech's cutting-edge research and innovative solutions in poultry nutrition and health. Key topics covered included the role of organic trace minerals in enhanced performance; advancements in feed efficiency; pathways for healthy poultry farming; and maximizing poultry profitability through innovative solutions.

Dr. Aman Sayed, Alltech's managing director for India and regional director for South Asia, kicked off the interactive session by discussing the company's global footprint, acquisitions, global feed survey, and upcoming customer service laboratories.

"Our goal is to support poultry producers in enhancing their operational efficiency and sustainability. Through these seminars, we aim to share the latest insights and technologies that can drive the industry forward," he said.

Addressing poultry profitability, Dr. Lokesh Gupta, Alltech's technical director for poultry in South Asia, presented on Alltech solutions, focussing on enzymes, mycotoxin binders and mineral treatments. He also explained alternative raw material sources.

Dr. Jayaraman Krishnarajan, renowned poultry consultant, gave a thorough talk on Pathways for healthy poultry farming, emphasizing signs, management, and prophylactic measures of poultry diseases. He discussed a wide range of topics, including low-pathogenic influenza, variable strains (IB), the respiratory disease complex, variable ND (genotype 13), heat stress and its management, and the roles of organic chromium and selenium in immunity and shell strength.

Alltech's vice president of corporate accounts and companion animals, Steve Elliott, discussed the importance of organic minerals in reducing stress and improving poultry performance, saying, "Our continued research at Alltech aims to enhance the bioavailability and efficacy of minerals in poultry diets, ensuring that producers can achieve better results with more sustainable practices."

Feedback from participants was overwhelmingly positive, with many expressing appreciations for the valuable information and the opportunity to connect with industry leaders.

Alltech remains committed to supporting the poultry industry through continuous research, innovation and educational initiatives. The success of this seminar series underscores the company's dedication to advancing poultry production and ensuring a sustainable future for the industry.







Contact: press@alltech.com

Dr. Manish Chaurasia, Marketing Manager, South Asia
mchaurasia@alltech.com; +91 8130890989

About Alltech:

Founded in 1980 by Irish entrepreneur and scientist Dr. Pearse Lyons, Alltech delivers smarter, more sustainable solutions for agriculture. Our diverse portfolio of products and services improves the health and performance of plants and animals, resulting in better nutrition for all and a decreased environmental impact.

We are a global leader in the agriculture industry. Our team produces specialty ingredients, premix supplements, feed and biologicals, backed by science and an unparalleled platform of services.

Strengthened by more than 40 years of scientific research, we carry forward a legacy of innovation and a unique culture that views challenges through an entrepreneurial lens. As a private, family-owned company, we adapt quickly to our customers' needs and focus on advanced innovation.

We believe agriculture has the greatest potential to shape the future of our planet. Our more than 5,000 talented team members worldwide share our purpose of Working Together for a Planet of Plenty™. Together, we can provide nutrition for all, revitalize local economies and replenish the planet's natural resources.

Headquartered just outside of Lexington, Kentucky, USA, Alltech serves customers in more than 120 countries, has five bioscience centers, and operates more than 80 manufacturing facilities across the globe.

For more information, visit alltech.com, or join the conversation on Facebook, X and LinkedIn.

AB Vista Appoints Mr. Atmaram Yadav as General Manager of South Asia

AB Vista, a leading global supplier of innovative feed ingredients and technical services, is pleased to announce the appointment of Mr. Atmaram Yadav as the new General Manager of South Asia. This strategic appointment is set to mark a significant milestone in the company's ongoing commitment to excellence and growth in the region.

Mr. Atmaram Yadav brings a wealth of experience to his new role, with an impressive career spanning over 25 years in the poultry industry. Over the past 14 years, Mr. Yadav has been an integral part of AB Vista, where his leadership and expertise have played a pivotal role in driving the company's success.

Throughout his tenure at AB Vista, Mr. Yadav has demonstrated exceptional acumen in market development, customer relations, and strategic planning. His deep understanding of the poultry industry, coupled with his innovative approach, has been instrumental in expanding the company's footprint and enhancing its market position. His contributions have not only strengthened AB Vista's presence in the industry but have also paved the way for innovative solutions that address the evolving needs of the market.

In his new role as General Manager of South Asia, Mr. Yadav will oversee the operations and strategic initiatives in the region, focusing on driving growth, enhancing customer engagement, and fostering innovation. His extensive experience and proven track record make him ideally suited to lead AB Vista into a new chapter of success.

"I am honoured to take on this new role and lead the South Asia region for AB Vista," said Mr Atmaram Yadav. "I look forward to working closely with our talented team and valued partners to continue our journey of growth and innovation. Together, we will build on our achievements and strive to deliver exceptional value to our customers."

Dieter Suida, Global Commercial Director of AB Vista, expressed his confidence in Mr. Yadav's appointment, stating, "Atmaram's extensive industry experience and deep knowledge of our business make him the perfect fit for this role. His leadership will undoubtedly contribute to our continued success and strengthen our commitment to delivering innovative solutions to the poultry industry in South Asia."

Under Mr. Yadav's leadership, AB Vista is poised to further consolidate its position as a market leader in the region, driving forward with renewed energy and a clear vision for the future.

Regards,

Mr Atmaram Yadav
M: +91-9958299203
E: Atmaram.Yadav@abvista.com

Glamac International Hosts Seminar on Optimizing Bird Performance and Combating Antimicrobial Resistance

Glamac International Pvt. Ltd., a leader in the poultry feed additive industry, regularly conducts seminars on impactful topics. Glamac recently held a highly successful seminar on the critical topic of "Optimizing Bird Performance to Sustain in the Industry & Overcoming Antimicrobial Resistance." The seminar took place on June 7, 2024, at the Sayaji Hotel in Raipur, attracting a diverse audience of poultry farmers, distributors, poultry consultants, feed manufacturers, and key industry accounts.

The programmed was graced by renowned speaker Dr. D. Chandrasekaran, a retired professor from the Department of Animal Nutrition at TANUVAS. With his extensive knowledge and experience, Dr. Chandrasekaran provided invaluable insights into the challenges and solutions for optimizing bird performance and tackling antimicrobial resistance—issues of paramount importance in today's poultry industry.

The program was meticulously orchestrated by AGM Technical and Marketing, Dr. Sumon Nag Chowdhury, whose expertise ensured a seamless and engaging seminar. Dr. Sumon mentioned,

"Due to enormous population growth over the last few decades there has been an increasing need for economical & secure supply of protein sources. The major, most affordable & quality animal protein sources are eggs & chicken and sustainable chicken farming has become very important." The proceedings commenced with a comprehensive company introduction by Founder & Managing Director, Mr. Abir Mukherjee. Mr. Mukherjee highlighted Glamac International's commitment to innovation, quality, and industry leadership, setting a positive tone for the evening.

Following the introduction, Dr. Chandrasekaran took the stage, delivering a detailed presentation that delved into the topic, latest strategies, and best practices for enhancing bird performance. His discussion covered a range of topics, from nutritional advancements to management practices aimed at reducing dependence on antibiotics and promoting sustainable growth.

The seminar also featured an interactive question-and-answer session, coordinated by Dr. Rahul Mogale Product manager, allowing attendees to engage directly with Dr. Chandrasekaran and gain further clarity on the topics discussed. This session fostered a collaborative atmosphere, encouraging the exchange of ideas and experiences among industry professionals.

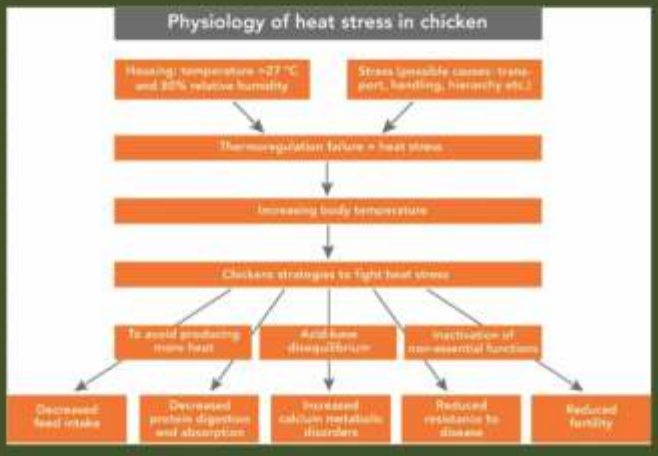
With Glamac's quest for innovation and R&D, Mr. Mukherjee presented two innovative natures blends of Glamac. CYNKA HBR - an antidiarrheal & antimicrobial and Gut Health Modulator which can outrightly replace the AGP or Halquinol to create a new era of antibiotic free chicken & egg in

ARVIS®

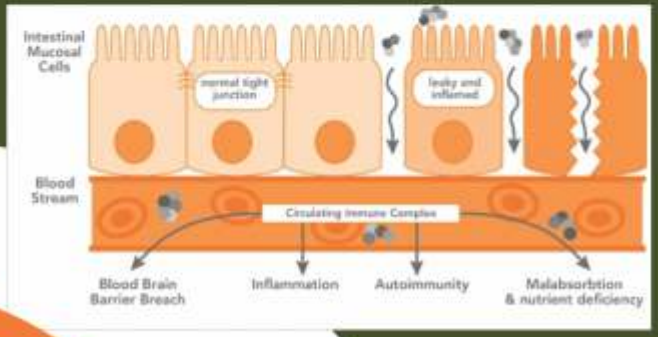
FOR PREVENTING AND AMELIORATING CONDITIONS INVOLVING DIFFERENT TYPES OF STRESS

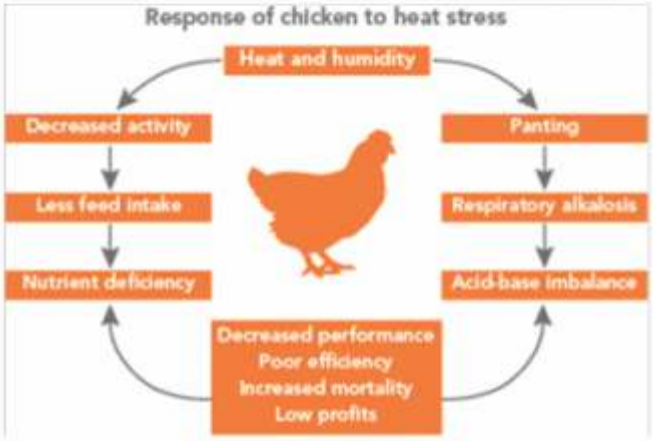
Heat stress occurs when ambient temperature exceeds the upper critical temperature, and bird needs to make extra efforts to release excess heat from the body, but this also causes loss of water, acids and minerals, leading to alkalosis, disturbed electrolyte balance, and dehydration. During severe heat stress, feed intake usually declines in poultry.

ARVIS: Help birds effectively handle heat stress and other types of stress.



In case of chronic heat stress, the integrity of the epithelial cells of the gut wall is threatened. The functionality of the close junctions decreases and this leads to the so-called 'leaky gut syndrome': The risk of inflammation is then imminent, because toxins and pathogens have more easy access to blood. Also, digestion and absorption of nutrients is hampered when the gut wall is damaged.





KEY BENEFITS

Efficiently controls stress associated with various painful conditions like de-beaking and vaccination

MODE OF ACTION

Physiologic methyl radical donor involved in enzymatic trans-methylation reactions and present in all living organisms. Arvis also possesses anti-inflammatory activity and has been used in treatment of acute and chronic inflammatory conditions.

COMPOSITION

s-AMe, Vitamin K3, Chromium Polypicconilate and Betaine.

INCLUSION LEVELS

0.5 g per liter of water 500 g/MT of feed

PRESENTATION

5 Kg and 25 Kg poly-coated paper bags

SHELF LIFE

3 years from the date of manufacture

India. Other one is Panbonis- Vitamin D3 metabolites, the global brand from Herbonis Switzerland. Vitamin D3 metabolites - new natural element in animal nutrition.

The event concluded with a heartfelt vote of thanks by Mr. Vinod Mishra - AGM Sales for North and South. Mr. Mishra expressed gratitude to all participants for their active involvement and contributions, acknowledging the collective effort done by the team & mainly to Mr. Upendra Dwivedi Area Sales Manager -MP & Chhattisgarh in organizing the seminar.

Glamac International is honoured to have sparked this vital and timely conversation with partners & clients and will continue to conduct such informative seminars. Glamac is committed to delivering cutting-edge solutions in the poultry industry & reinforcing its position as a leader in innovation and excellence.

UT-VENBIOL GOLD

MICROBIOLOGICAL FEED INGREDIENT

Bacillus subtilis DSM 32540 and
Bacillus amyloliquefaciens CECT 5940

Striving for immunized GUT, Healthy Digestion

EXCELLENT PERFORMANCE

Optimizes gut health

Prevents diseases

Enhance performance

Benefits

01 Improve gut health by supporting growth of gut friendly bacteria

02 Improve feed efficiency and Performance of the bird

03 Induces resistance to environmental transition stress impact on gut health

04 Replacement of AGP free feed production along with disease prevention

05 Higher and faster return on investment

06 The best immuno modulator and enrich appetite of bird

07 Inhibits growth of pathogens like Clostridium perfringens, Salmonella species and E. Coli

08 Introduction of secondary metabolites strengthens Villi integrity for effective nutrients absorption

Dosage

UT VENBIOL GOLD
500gm/ metric ton
of feed

Composition

Preparation of ***bacillus subtilis DSM 32540, bacillus amyloliquefaciens CECT 5940*** and calcium carbonate as a carrier with a minimum guaranteed concentration of $2X10^9$ CFU/gm of product.

Venky's

UTTARA IMPEX PVT. LTD.

Feed Supplement Division
Venkateshwara House, S. No. 114/4/2
Sinhgad Road, Pune, MH - 411030

For trade enquiry:

Contact no.- 020-71251840
Website- www.venkys.com
Uttara Impex Pvt Ltd

Unveiling Success: Indian Herbs Specialities organized Spectacular One-Day Technical Seminar at Midnapur, West Bengal on June 8, 2024

INDIAN HERBS SPECIALITIES Pvt. Ltd. organized a Spectacular One-Day Technical Seminar in Midnapore, West Bengal, on June 8, 2024. This seminar was a resounding success, leaving an indelible mark on the attendees and organizers alike. The seminar's thematic focus on 'Layer nutrition, management and disease diagnostics' addressed crucial aspects vital for the sustainable layer farming operations.

The esteemed presence of Chief Guest, Dr. Purnendu Biswas, Ex Vice Chancellor, W.B.U.A.F.S, Guest of Honour, Mr. Madan Mohan Maity, Chairman NECC (East Zone) and Dr. Sudipto Haldar Director, Agrivet Consultancy elevated the seminar to a prestigious platform. Key highlights of the seminar included noteworthy address by Dr. Purnendu Biswas, Mr. Madan Mohan Maity and insightful session by Dr. Sudipto Haldar on 'Layer nutrition, management and disease diagnostics'.

This session was complemented by Dr. Shivi Maini's presentation on 'Novel Phytogenics for Summer Stress Management in Layers', offering innovative solutions to prevalent challenges in layer farming. The enthusiastic engagement of the West Bengal Sales team, led by Mr. Paramartha Roy, National Sales Manager and comprising Mr. Tirthankar Banerjee Sales Manager (East Zone), Mr. Khokan Paul, Mr. Subhadip Mondal and Mr. Kaushik Paul further exemplified INDIAN HERBS dedication to fostering strong customer relationships and providing unwavering support to the farming community.

Furthermore, the active participation of over 60 top layer farmers, integrators, feedmillers, and patrons underscored the event's significance and relevance within the West Bengal poultry-Layer community. The vibrant exchange of ideas, experiences and best practices fostered a collaborative spirit, nurturing a conducive environment for collective learning and growth.






Changing Landscape and Innovative Managemental Strategies of Toxicities in Poultry: Technical Session Organized by Venky's India Limited

Venky's India Limited Organized Technical Seminars on 24th & 27th April at Raipur and Karnal. The seminars were led by Dr Joseph Garcia, technical manager at Special Nutrient, USA. The theme of seminars was on "Changing multiple toxicities in feed and its mitigation strategies"

Dr Joseph Garcia started his presentations on "Toxin in Poultry" by showing some of the Photographs of the post mortem lesion caused by mycotoxicity in poultry. These Photographs of post mortem lesions given clear idea about different lesions in different organs by different mycotoxins. He also talked about the prevalence of different toxins in the feed and how Biobantox and Biobantox Plus can play a critical role in the toxicity prevention and management in poultry.

Afterwards Dr. Joseph Garcia updated about the endotoxins and their importance in poultry production. The endotoxins disrupt gut health in poultry. Endotoxins, also known as lipopolysaccharides (LPS), are part of the outer membrane of the cell wall of all gram-negative bacteria (e.g. E. coli, Salmonella spp., Shigella spp., Pseudomonas spp., among others) that are released from bacterial cell wall by shedding or through bacterial lysis. As the gram-negative bacteria are part of poultry microbiota, lipopolysaccharides (LPS) are also present in the intestine. Under eubiosis, this does not affect animals negatively because intestinal epithelial cells are poorly responsive to Lipopolysaccharides (LPS) when stimulated from the apical side.

Endotoxins are released in systemic circulation from gram negative bacteria whenever we use antibiotics against these the gram negative bacteria. These released endotoxin in systemic circulation of birds, affects their health and reproduction. In vitro and in vivo studies of Biobantox plus has shown binding efficiency against endotoxins (Lipopolysaccharides). Endotoxins, Pesticides and Mycotoxins adversely affect the immune system and performance of the birds. He concluded that Biobantox plus is very effective to bind Endotoxin along with adsorption of mycotoxins and pesticide, thus keeping the birds health in good condition.

Dr Joseph Garcia also mentioned about immunosuppression caused by mycotoxins and subsequent vaccine failures. He emphasized that one should be very careful while selecting a toxin binder as some agent such as activated charcoal if included as a toxin binder may have deleterious effects on health by binding the nutrients such as vitamins and minerals from the feed. Biobantox

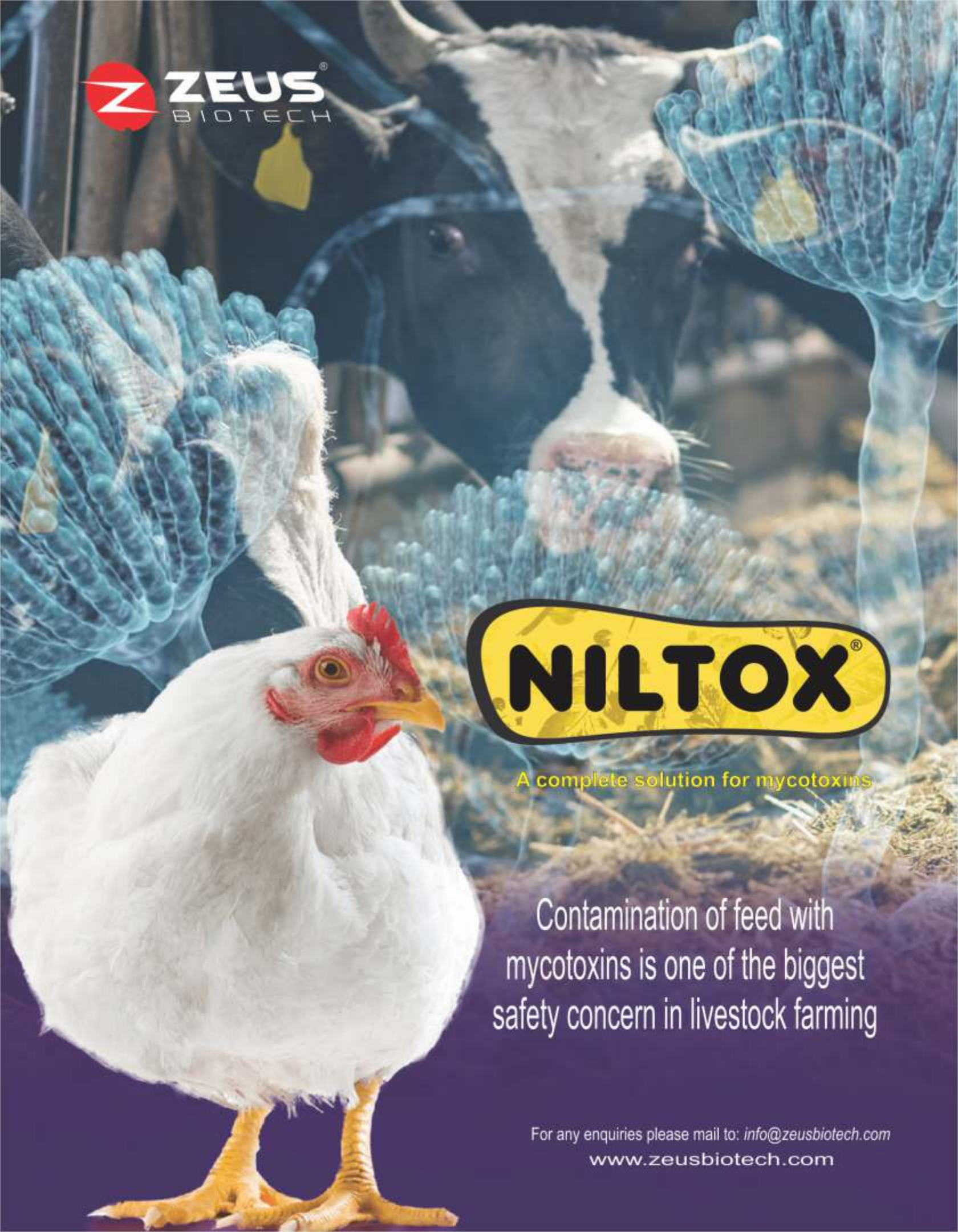
Plus takes care of mycotoxins, Endotoxins & Pesticides and helps in maintaining optimal health of the birds resulting in better performance.

The seminar at Raipur was attended by field veterinarians, broiler breeders, broiler integrators and layer farmers. Mr. K.G.Anand (GM, VHPL) gave introductory speech. The seminar was co-ordinated by Dr Vishwas Sagajkar (DGM) and Dr Hemanth Murade (DGM). The lamp lightening was done by Mr K.G. Anad, Dr Bhindwale (GM, Phoenix group), Mr Govind Chandrakar and Mr Sanjay Bramhankar. Mr Manish Pottdar (ZM) offered vote of thank for attending the seminar.

The Seminar was attended by field Veterinarians, Consultants, Layer farmers, broiler Breeders and Broiler integrators. Mr Shashi Bhushan welcomed all the guests.The lamp lighting was done by Dr Danveer (GM production), Mr Bisla and Dr Sagajkar In opening remark, Dr. Vishwas Sagajkar (DGM Marketing) introduced Dr Joseph Garcia and given brief about importance of mycotoxin control in poultry production.

At the end, Dr Vishwas Sagajkar thanked everyone for attending the seminar and concluded with positive results and excellent ROI of Biobantox and Biobantox Plus in poultry feed

The seminar received massive response from the poultry farmers, veterinarian and consultants. In all the seminars queries from the participants were discussed in details.


ZEUS
BIOTECH
NILTOX®
A complete solution for mycotoxins
Contamination of feed with mycotoxins is one of the biggest safety concern in livestock farming
For any enquiries please mail to: info@zeusbiotech.com
www.zeusbiotech.com

Venkateshwara B V Bio-Corp Private Limited Organised Technical seminar In Chitwan, Nepal on "Commercial Layer Nutrition" & "Vencobb 430 Breeder Management Updates"

Venkateshwara B V Bio-Corp Pvt Ltd organized Technical seminars for Poultry Farmers on Friday 31st May, 2024 and Saturday 01st June, 2024 at Chitwan, Nepal. These technical seminars were attended by poultry farmers of Chitwan, Pokhara and surrounding areas of Nepal.

Mr Jivan Kunwar, Nepal Country Manager, Venkateshwara B V Bio-Corp Pvt. Ltd. welcomed all attendees and Mr. Deepak Khosla, General Manager, Marketing gave the opening remark.

The speaker for the First seminar (Commercial Layer Nutrition), Dr Sunil Nadgauda, DGM - Nutritional Services explained in detail about the "Commercial Layer Nutrition" in all aspects. During discussion 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 body weight monitoring in rearing period and its impact on laying productivity.
- Early Laying Nutrition to maximize peak production and to maintain the consistency.
- Benefits of Phase feeding – to reduce the overall egg production cost and to optimize the efficiency also.
- Alternative sources of Protein & Energy and precautions to be taken while using the alternative feed ingredients.
- Maintaining the egg shell quality during extended laying periods.
- Innovative premix solutions to simplify the feed manufacturing process and also to avoid errors during feed production. MIXIBLEND 0.4% Layer Composite premix

GARLICIN Antiviral & AGP Replacer

GARLIC

Feeding to broiler chick

Increase in Antibodies response

Allicin From Garlic

CD4 Cells

Antiviral activity against IBD, Infectious bronchitis

NK cell

CD8 Cells

FUNCTIONAL IMPACT OF GARLICIN

Gut morphology | Antioxidant activity | Antimicrobial

GARLICIN

Digestive secretion | Antimicrobial action | Immune system

Improved nutrient digestibility, antioxidant capacity & immune status

Increased performance

IMMUNOMODULATOR

INCREASE BODY WEIGHT

INCREASE PRODUCTION

DISEASE & STRESS RESISTANT

IMPROVE FCR

INCREASE HATCHABILITY

T_3-100 Natural egg yolk Coloring enhancer & AGP Replacer

Absorbed from gut

↓

Enters into circulation

↓

Deposited in egg

↓

Impart natural yellow colour to yolk due to Curcumin

- Kill the Harmful pathogen by antimicrobial mechanism
- Boost immune system
- T3 100 is also use as Flavoring & coloring agent

Curcuma longa natural source of Curcumin

NHF

We believe in innovation...

NATURAL HERBS & FORMULATION PVT. LTD.®

(An ISO 9001:2008 & GMP Certified Company)

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E-Mail : info@naturalherbs.co.in | Website : www.naturalherbs.co.in

is the innovative and simple solution which provides additives part in required proportion to boost the productivity.

Dr Sunil Nadgauda answered the queries of the attendees related to the subject and other technical queries regarding Poultry nutrition and management.

Dr. Parag Mahadik, AGM Marketing, Ventri Biologicals explained in detail about New Castle Disease (ND). ND is the 4th top poultry disease in the world having huge losses in poultry industry. As ND virus is a single stranded RNA virus, lot of modifications are happening in it. There is no sterile immunity after ND vaccination therefore there is a need to repeat vaccination frequently. India is endemic to velogenic strains of ND. In India, Nepal and other Asian countries genotype VIII or XIX is prevalent so this component is updated in Ventri Biologicals vaccines.

The speaker for the Second seminar, Dr Harshakumar Shetty, General Manager- Breeder Sales & Technical support explained in detail about the "Vencobb 430 Breeder Management Updates". During his presentation he discussed following points-

- Importance of uniformity in broiler breeders and how to achieve it.
- Importance of Grading in broiler breeders and its impact on uniformity.
- He also discussed regarding calculation of feed increment and feed allocation after grading.
- Emphasised on feed management and body weight management in female during growing and laying phase.
- Preparing pullet for maximum performance.
- Standard recommendation regarding light stimulation and also discussed about the lighting schedule during growing and laying in open as well as environmentally controlled houses.
- Requirement of energy for maintenance, growth and production during laying period.
- Ways to prevent fatty liver, calcium tetany.
- He also discussed about male management for achieving better Fertility.

Dr. H K Rohilla, DGM - Broiler Breeder Technical Services (North India) shared his field experiences with Infectious Bronchitis infections in Broiler Breeders, Layers and commercial Broilers. He in detail discussed about the disease transmission, routes of infection, clinical signs and symptoms, PM changes. Finally he suggested strategies for prevention of Infectious Bronchitis with help of biosecurity and vaccination. He also presented numerous case studies in broiler breeders.

Both the technical seminars were attended by around 100 poultry farmers each from Chitwan, Pokhara and surrounding areas of Nepal.

Mr Jivan Kunwar, Nepal Country Manager, Venkateshwara B V Bio-Corp Pvt. Ltd. proposed vote of thanks to all. The local Venworld Team organised this technical seminar.

NOVUS new Global Headquarters is Focused on the Future

CHESTERFIELD, MO (June 11,2024) – Novus International, Inc., is focusing on research, new product development, and innovation in a new place to call home in the United States. The intelligent nutrition company recently moved its global headquarters in Missouri.

"America's heartland has been home to our global headquarters since our founding in 1991. It was important for us to stay in Missouri and remain centrally located to our customers throughout the U.S.," says Dan Meagher, NOVUS president and CEO. "While the new building is perfect for today's NOVUS, the improvements we've made in the new lab at HQ are helping us plan for the animal agriculture industry of tomorrow."

Located at 17988 Edison Ave., in a suburb of St. Louis, the already existing building was redesigned with the future in mind.

"The new space is more focused on R&D and efficiency to help further our commitment to innovation," says Paula Fisher, manager of analytical services and R&D at NOVUS. "It's a space that truly provides us the opportunity to develop and formulate intelligent, next-generation solutions to support the ever-changing landscape of our customers in the animal agriculture industry."

From the new lab, the NOVUS team performs organic chemistry and biochemistry, analyzes feed formulations and raw feed ingredients, as well as process and manufacturing chemistry and microbiology.

Deana Hancock, Ph.D., director of global applied research and technology scouting, says the science and analysis conducted at NOVUS headquarters supports both the customers and the wider animal agriculture industry.

"Our Open Innovation approach helps us address new customer challenges by looking beyond our own capabilities," she says. "We find and review developing ideas and products along with technologies already in development to identify collaborative opportunities. We also partner with industry leaders in the field and at research centers around the world to explore up-and-coming technologies even outside of the feed additive sector. Through this approach, we can develop products and services for multi-species and different regions."

Hancock says the in-house lab allows NOVUS to work in lockstep with external partners to achieve the company's goal of creating products that address animal health, well-being, and performance through intelligent nutrition.

Along with innovation in the lab, the new office is also a reflection of today's workspace environment.

"The former headquarters served us well, but today's work environment requires flexibility to enhance the employee experience," says Global Director of Human Resources Evelyn Mendes. "Since 2020 NOVUS has fostered greater collaboration among employees with hybrid offices that are more suitable for on-site, partially remote, and fully remote work."

Along with the labs, the building houses members of the company's Executive Leadership Team, legal and regulatory, finance, human resources, operations, supply chain, and logistics. Hot desks throughout the building offer work spaces for employees to use as needed and there's a variety of space to support internal collaboration and meetings with customers.

"NOVUS embraced the hybrid work model prior to 2020, empowering our employees with greater autonomy to do their best work wherever they are most productive. We also recognized the fiscal and environmental benefits of optimizing the usage of our office space," Mendes says.

NOVUS has also filed for a one-time rebate from energy company Ameren for energy conscientious lighting, HVAC system, and laboratory ventilation system.

The project was executed by Gray Design Group in partnership with HERA laboratory planners to design the lab space. Both companies are located in St. Louis, MO.

NOVUS is the intelligent nutrition company providing solutions for the global animal agriculture industry. The company's portfolio includes bis-chelated organic trace minerals, enzymes, organic acids, essential oils, liquid and dry methionine, as well as a network of experts around the world to provide guidance on management best practices.

For more information on how NOVUS is using innovation to help poultry, pork and dairy producers do more, visit novusint.com.

Feed Enzymes Global Leader Focused on Expanding Portfolio at NOVUS

CHESTERFIELD, MO (June 26, 2024) – José Otávio B. Sorbara, Ph.D., is charting the direction of a growing product portfolio at NOVUS. Sorbara was named the intelligent nutrition company's Feed Enzymes Global Leader following the company's acquisition of BioResource International, Inc. (BRI), earlier this year.

In this new role, Sorbara owns developing the strategy and managing the innovation pipeline for NOVUS's enzyme products while supporting the commercial team as it works to grow the feed enzyme business around the world.

"Enzymes are more important than ever for the animal agriculture industry," Sorbara says. "They play a crucial role in optimizing feed formulations, making them more cost-effective for feed millers and farmers. By enhancing the digestibility of nutrients in the feed, our enzymes improve the overall nutritional value of the diet for animals. This not only boosts animal performance but also reduces waste and environmental impact by minimizing nutrient excretion."

He says coupling BRI's products and expertise in fermentation with NOVUS's own CIBENZA® Enzyme Feed Additive not only provides more options to customers it also allows the company to innovate solutions for tomorrow's nutrition and performance challenges.

Laura Munoz, senior director of Global Strategic Marketing & Business Development says Sorbara's expertise with enzymes as well as in managing and fostering collaboration of global and regional teams will be an asset to grow the company's market share in the enzyme sector.

"As an expert, José helped expand market opportunities for various enzymes while with DSM. His understanding of the sector is definitely an asset as we work to grow our enzyme portfolio," Munoz says. "We're confident that José's leadership will allow us to meet our goals as well as continue to solidify our commitment as a trusted partner for our customers," Munoz says.

Sorbara spent the last 17 years with dsm-firmenich where he most recently served as the Global Innovation Lead for Poultry. He also previously held technical, marketing and category management roles at the company. He earned his doctorate in poultry nutrition from the State University of Maringá (Universidade Estadual de Maringá) in Brazil.

He is a member of the Poultry Science Association and resides in Brazil.

NOVUS is the intelligent nutrition company providing solutions for the animal agriculture industry around the world. The company's portfolio includes trace minerals, nutritional enzymes, feed digestibility and meat quality solutions, and methionine supplementation products., as well as a network of experts globally who provide guidance on management best practices. To learn how NOVUS is Made of More, visit novusint.com.

For information about the solutions NOVUS offers through its enzymes portfolio, visit www.novusint.com.

COMPAC-EC®

The Thermo-modulator

Compac EC is a comprehensive combination of various bio-active nutrients for thermoregulatory, antipyretic, antioxidant, osmoregulatory, immunomodulatory action. It also modulates nutrient uptake in the gut which effectively overcomes heat stress and its further consequences.

- Reduced nutrient uptake
- Depressed growth & development
- Compromised immunity
- Increased disease incidences
- Impaired productivity

COMPOSITION

Advanced nutrient combination of various osmoregulators, thermoregulators and bio-active compounds.

OSMOREGULATORS
- Betaine
- Sodium Salicylate
- Potassium Chloride
- Magnesium Sulphate
- Zinc Sulphate

NUTRIENTS
- Vitamin C
- Vitamin E
- Selenium
- L-Arginine

BIOACTIVE COMPOUNDS
- Withania somnifera
- Emblica officinallis

BENEFITS

- Improves immunity and vaccine response.
- Reduces the mortality caused by various stress conditions like heat stress in summer.
- Reduces wet litter conditions caused by excessive water intake during heat stress in the summer.
- Improves feed intake, body weight, feed conversion ratio, and carcass quality in broiler birds.
- Improves fertility and semen quality in breeders.
- Enhances egg production, egg mass and egg quality.

INDICATIONS

- For optimising the production performance of the birds in all seasons.
- Stress conditions of various origins like debeaking, Shifting and vaccination.
- Stress of managemental or environmental origin.
- During depressed growth and performance.
- Immunosuppression of various origins.
- As a supportive aid during disease outbreaks.

USAGE

COMPAC-EC can be used in feed or water.

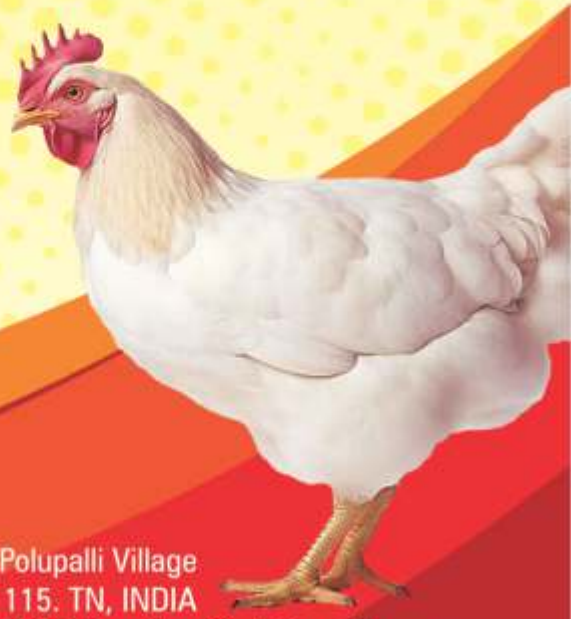
In feed : 250 to 500g/MT

In drinking water : 1 g/L

Or as recommended by poultry health specialist.

PACK SIZE

Available in 25 kg (5 kg * 5)



For Further Details

A L Lifesciences

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61st Aviagen Production Management School Promotes Knowledge Sharing and Networking

HUNTSVILLE, Ala. – Aviagen® North America concluded its 61st annual Production Management School on June 27. Taking place in Huntsville, Ala., the month-long event brought together 35 students from 20 countries, as they delved into best poultry management practices and experienced the benefits of "Breeding Success Together."

In-depth insight, "train the trainer" approach

"Our goal with the North American School is to give our customers valuable perspectives on effective management techniques that have been proven to enhance both broiler and breeder welfare, sustainability and productivity in poultry operations," explained Dr. Marc de Beer, President of Aviagen North America.

De Beer emphasized that, in addition to classroom theory, students gain practical experience on the farm, in the diagnostics laboratory, and at the feed mill. "Our approach is to 'train the trainer,' equipping them with the depth of knowledge needed to share their learnings with their colleagues back home."

Expansive curriculum, practical experience

Highlights for students included visits to the Aviagen's state-of-the-art Production Development Center in Albertville, Ala., Egg Distribution Center and Vet Lab in Elkmont, Ala., and Feed Mill in Pikeville, Tenn., as well as the National Poultry Technology Center at Auburn University.

Students became well-versed in crucial areas such as bird welfare, biosecurity, and compartmentalization for food safety and security, feed efficiency for greater sustainability, effective vaccination and disease management techniques, ventilation, essentials for leg and gut health, hatchery and incubation management, and the importance of water quality.

The comprehensive curriculum featured over 35 topics covering the latest innovations in poultry production. Participants engaged in seminars, workshops, and hands-on field experiences, led by Aviagen experts and guest

lecturers specializing in veterinary care, nutrition, genetic research and development, production and farm management, and hatchery and incubation.

Building connections and lifelong networks

"Another important aspect of the Production Management School is the opportunity to connect and exchange ideas with like-minded poultry professionals from around the world," added Taylor Davis, Digital and Event Marketing Specialist. Davis, along with Marketing Specialist Tanner Gallik, organized the school and incorporated team-building activities to foster lifelong connections among participants.

Demonstrating Excellence

Top achievers (L-R): Ahmed Sayed, Jongsu Ha, and Patrick Sakayo

Research shows that frequent testing enhances retention by reinforcing key concepts; therefore, students take weekly tests throughout the month, and at the end of the course, the top scorers are reconginized. Congratulations to this year's top achievers:

- 1st place: Ahmed Sayed, Veterinary Care Assistant Manager at GPs Sector, Cairo Poultry Company (CPC), Egypt
- 2nd place: Jongsu Ha, Director of Quality Assurance, Samhwa GPs Breeding Agri., Inc., Republic of Korea
- 3rd place: Patrick Sakayo, Breeder Operations Manager, Tanbreed Poultry Limited, Tanzania

Enthusiastic student response

"I valued the chance to learn the industry's latest management techniques and veterinary care from experienced experts. I had ample opportunities to receive one-on-one advice on our specific local challenges and best practices. I also appreciated the hospitality of our hosts," commented Ahmed Sayed, Veterinary Care Assistant Manager at GPs Sector, Cairo Poultry Company (CPC), Egypt.

Alan Mair, Broiler Operations Manager, Turosi Food Solutions, Australia, added, "Thank you to the Aviagen staff for an excellent four weeks. They ensured we had a varied schedule, with plenty of time to connect and learn from our fellow students. The School enabled me to enhance my management knowledge and gain a deeper understanding of the needs of Ross® birds, which will help me improve the performance, health, and welfare of my flocks at home."

KMITL and CP Foods Launch Innovative Program to Propel Next-Gen Talent into Food Industry

King Mongkut's Institute of Technology Ladkrabang (KMITL) and Charoen Pokphand Foods Public Company Limited (CP Foods) have forged a Memorandum of Understanding (MoU) for academic collaboration, unveiling a novel educational paradigm of "work-integrated learning" through the Co-Creation project. This initiative aims to cultivate engineering students' STEM (Science, Technology, Engineering, Mathematics) proficiencies and entrepreneurial acumen during their academic tenure. The approach is tailored to address the dynamic requirements of the contemporary food industry and to adapt to swiftly evolving technologies.

By integrating theoretical knowledge with practical experience, the program aims to produce well-rounded graduates who are prepared to innovate and contribute to the food industry's growth. Students will have the opportunity to engage with real-world business scenarios at CP Foods, gaining valuable industry insights and hands-on experience before completing their degrees.

This partnership between academic institutions and business organizations represents a significant step towards aligning degree education with the practical demands of the modern workplace, particularly in the dynamic field of food technology and production. It aims at "co-creating talent, shaping the future, and

MARISYM BIOLOGICALS

ROOTING INNOVATIONS

GALVIGO-BAC SF

Bacillus Feed Probiotic

Our in-house developed *Bacillus licheniformis* (PBL01) spores are thermally resilient and produced under rigorous quality assurance systems, ensuring optimal and consistent poultry performance.

FEATURES:

- *Bacillus* feed probiotic formulation
- Produces antimicrobial metabolites which selectively ward off pathogens like *Clostridium perfringens, Salmonella* and *Escherichia coli.*
- Secretes enzymes like protease, amylase and other non-starch polysaccharide enzyme (NSPE) promoting feed digestibility and nutrient absorption
- Reduces the availability of nutrients for pathogens in hindgut

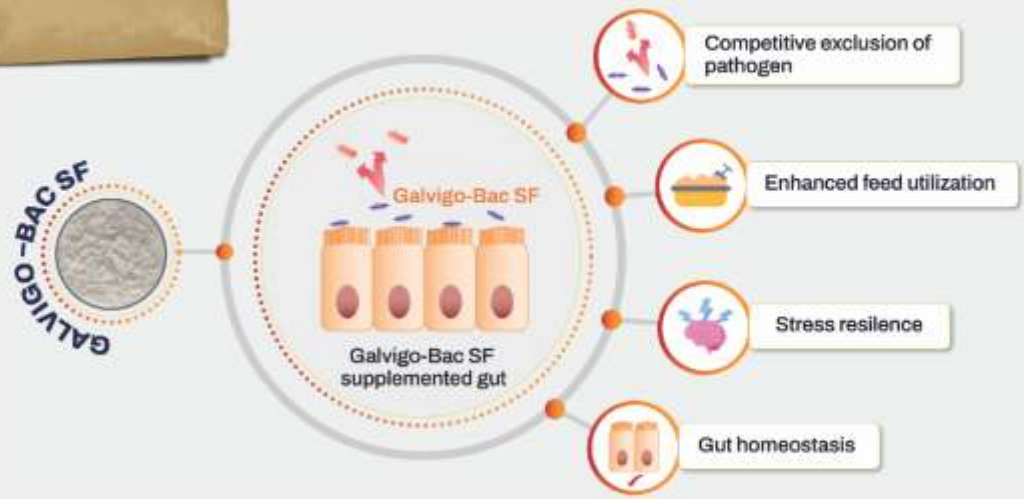
BENEFITS OBSERVED:

- 70 - 80 grams increase in body weight per bird
- Upto 0.7% increased livability
- Upto 70 points improvement in FCR
- Gut health improvement and superior thermostability in gut and feed pelletization
- Litter quality improvement, hence reduced fly menace

DOSAGE:

500g/ton of feed or as suggested by veterinarian/ nutritionist.

MODE OF ACTION:



FACTORY ADDRESS: SF NO. 502/1A, 503/1A1, Chettipalayam Road, Othakalmandapam, Coimbatore, Tamil Nadu, 641 032.

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building networks" to address industry and labor market needs. The collaboration pilot focuses on engineering in four program areas: Integrated Manufacturing Engineering, IT and Information Systems Engineering, Agro-Industrial Engineering, and Robotics and Artificial Intelligence Engineering.

CP Foods participates in adding value in engineering graduates with an entrepreneurial mindset. Besides theoretical learning at the university, students have the opportunity to gain hands-on experiences at CP Foods operations.

Assoc. Prof. Dr. Komsan Maleesee, President of KMITL, stated that KMITL and CP have been collaborating continuously in education and research. This cooperation bridges the potential of the education sector with the industrial business sector to cultivate well-rounded students capable of developing beneficial innovations for the agriculture and food sectors. It enables students to gain real work experience before graduation, fostering entrepreneurship through the application of knowledge to problem-solving, combined with direct learning from CP Foods experts. This approach equips students with skills to generate innovative ideas and solutions, enhancing their readiness to drive industrial competitiveness in rapidly changing work environments, which serves as a crucial mechanism for sustainable economic growth.

Prasit Boondoungprasert, CEO of CP Foods, stated that the collaboration with KMITL, a renowned educational institution, is a joint effort to develop human resources and shape the future for the next generation. CP Foods integrates knowledge coupled with practical application and fosters an entrepreneurial mindset. This approach enables new-generation engineers to pursue 21st-century careers with capabilities comparable to international standards, preparing students to seamlessly integrate into market. The organization anticipates seeing creativity and innovation from this new generation, which will help drive CP Foods' growth towards becoming a sustainable "Kitchen of the World".

"We believe in the new generations' progressive thinking and technological prowess, which will catalyze changes within our organization. This collaboration provides a platform for students to learn through hands-on experience, honing their STEM skills and technological knowledge to drive growth for the organization. We're nurturing a new generation of capable professionals who will support Thai society's and economy's sustainable development, benefiting all relevant sectors. This approach aligns with the Three-Benefit Philosophy, championed by Senior Chairman Dhanin Chearavanont, which aims to conduct business that benefits the country, its people, and the organization," Prasit stated.

Additionally, CP Foods has been collaborating with KMITL to enhance students' capabilities and foster knowledge exchange and innovation between the business and education sectors. This partnership aims to elevate Thailand's education and research standards, preparing the country for the rapidly evolving trends of the digital era.

CP Foods' 'Compartment' System Ensures Space-Standard Food Safety for Chicken Meat

Charoen Pokphand Foods Public Company Limited (CP Foods) applies a disease-free farming practices called the "Compartment" system, adhering to international standards. This approach strengthens disease prevention and surveillance in poultry farms, ensuring that meat and food products delivered to consumers are of the highest safety. Consumers can be confident in CP Foods' products, which are disease-free, safe, and chemical-free, thus creating food security for the world's population.

Dr. Payungsak S. Tanagul, DVM, Deputy Director of Standard and Regulation at CP Foods, explained that the company has been applying compartment standards since 2006, following the guidelines of the World Organization for Animal Health (WOAH). This strict implementation aims to elevate the level of protection and surveillance of farm poultry to ensure they are healthy and safe from various epidemics, especially bird flu (Avian Influenza). This standard system has kept poultry protected and healthy, with no disease outbreaks on the farm for over 15 years.

"CP Foods places the utmost importance on the quality and safety of food products. Raising chickens is given great importance regarding animal welfare. Additionally, the disease prevention system is strong and effective. The compartment system is one of the proactive measures in creating maximum confidence for consumers," said Dr. Payungsak.

The principles of the compartment system involve effective control measures and strong disease prevention and surveillance. The system emphasizes four main measures:

- **Biosecurity Management System:** This measure focuses on risk assessment related to people, animals, vehicles, and objects entering the farm. CP Foods implements strict measures beyond general disease prevention standards to assess the risks specific to each farm in different areas, considering various factors and the risk of bird flu entering farms.
- **Surveillance of Bird Flu:** This involves monitoring bird flu on the farm and within a 1-kilometer radius according to the requirements of the Department of Livestock Development. The status of the chicken flock is checked for diseases based on laboratory testing. CP Foods' broiler farms collect samples to check for diseases and verify the bird flu status before placing the chickens and before sending them to the processing plant.
- **Compartment Disease Control Measures:** These measures aim to prevent disease outbreaks and include an emergency plan. The compartment system allows for quick identification of problem statuses with an early warning system.
- **Traceability System:** This system ensures the status of the chickens is known. The main principles include following up on information, investigating, analyzing problems, and planning future directions for the traceability process in the production chain.

Dr. Payungsak added that the compartment system is another guarantee of food safety and success in preventing bird diseases, a principle that CP Foods has always adhered to. This makes CP's chicken meat gain the trust of consumers. Additionally, CP's chicken meat is certified to the Space Food Safety Standard, aligning with the food safety criteria of NASA, ensuring safe, disease-free, substance-free food of the highest standards for consumers.

dsm-firmenich and BESTMIX Software Partner to Unlock the Value of Sustainable feed Production with Sustell™

Driving sustainability in the food value chain through integrated feed formulation and life-cycle assessment software.

dsm-firmenich, the leading innovator in health, nutrition, and beauty, and BESTMIX Software, a leader in feed and pet food production solutions, announce their strategic partnership to measure and manage the environmental footprint of animal feed.

Roughly one-third of the world's greenhouse gas emissions come from food production. Companies along the feed and food value chain are increasingly called upon to measure, report and reduce their environmental footprints because of their own sustainability commitments, regulatory requirements and consumer preferences—requiring considerable amounts of data.

The partnership links BESTMIX® Software's feed formulation with the Sustell™ full life cycle assessment (LCA) platform, allowing customers to generate and share their feed footprints easily. With this solution, feed producers, who play a major role in enabling sustainable animal protein, can report the environmental impact of their feed with the click of a button, leveraging existing data in their trusted BESTMIX software suite. This integration assists feed producers in addressing future demands of feed labelling, while simultaneously helping farmers accurately quantify the environmental impact of products such as eggs, meat, milk, and farmed seafood.

This is an important step for full value chain transparency and helps the whole food industry, including feed producers, farmers, processors, food companies and retailers to accurately report their emissions and improve their sustainability practices.

This ability to accurately measure and improve the footprint through systems connectivity helps unlock multiple value opportunities such as sustainable finance, eco-labelling, voluntary carbon trading and identification of best farming practices across all species industries.

David Nickell, Vice President of Sustainability & Business Solutions at dsm-firmenich, Animal Nutrition & Health said: "Feed is a critical part of the food value chain. By connecting Sustell™ with a well-known software player such as BESTMIX, we further realise our ambition to connect the entire farm-to-fork ecosystem. Reliable, easy-to-use LCA footprinting is the key to enabling cooperation throughout the value chain to meet the challenge and seize the opportunities related to sustainability."

Gerard Marneth, CEO at BESTMIX Software, said: "We are delighted to partner with dsm-firmenich, using Sustell™ to offer our customers a cutting-edge solution for measuring and managing the environmental impact of their feed production. We believe that this partnership will create value for our customers and contribute to a more sustainable future for the feed and food industry."

About dsm-firmenich

As innovators in nutrition, health, and beauty, dsm-firmenich reinvents, manufactures, and combines vital nutrients, flavors, and fragrances for the world's growing population to thrive. With our comprehensive range of solutions, with natural and renewable ingredients and renowned science and technology capabilities, we work to create what is essential for life, desirable for consumers, and more sustainable for the planet.

dsm-firmenich is a Swiss-Dutch company, listed on the Euronext Amsterdam, with operations in almost 60 countries and revenues of more than €12 billion. With a diverse, worldwide team of nearly 30,000 employees, we bring progress to life™ every day, everywhere, for billions of people.

www.dsm-firmenich.com

About Sustell™

Sustell™ makes precise, tailored environmental footprinting the new normal across the animal farming value chain, opening the door to multiple commercial opportunities and a more sustainable food system.

From improving farm efficiency to sustainable finance and ecolabeling and credible, accurate reporting, Sustell™ is your solution.

Backed by a robust, ISO certified methodology, a user-friendly SaaS interface and an animal nutrition expert center, Sustell™ is the leading life cycle assessment (LCA) solution for sustainable animal protein from farm to fork for all species.

Unlock the value of your footprint with Sustell™.
www.sustell.com

About BESTMIX

Since 1974, BESTMIX® Software, formerly known as Adifo, has specialized in developing software tools tailored for the food and feed industry. Their offerings include least-cost recipe formulation, quality data management, ration calculation, cloud services, and ERP solutions. With over 1000 customers in 60 countries, BESTMIX® helps optimize resources, enhance product quality, improve animal performance, and boost efficiency and profitability.

Leveraging nearly 50 years of experience, continuous user input, and advanced technology, BESTMIX® delivers innovative solutions globally. As a gold certified Microsoft partner, they remain committed to ongoing improvement and business innovation. For more information, visit www.bestmix.com.

IFF Expands The Launch of Industry-leading Poultry Solutions In The Eu

NEW YORK – June 26, 2024 – IFF today announced EU-wide regulatory approval for two of its groundbreaking feed solutions for poultry. Axtra® XAP – a multi-enzyme blend and Syncra® AVI – an enzyme-probiotic complex from Danisco Animal Nutrition & Health, IFF's Health & Biosciences business unit, are formulated to meet the challenges of modern poultry production and deliver measurable performance improvements.

"Obtaining full EU authorization empowers us to unleash the remarkable potential of these two exceptional in-feed products to poultry producers across the region," said Jose Luis Ecija Roux, marketing director EMEA, Danisco Animal Nutrition & Health. "Axtra® XAP and Syncra® AVI have demonstrated their pivotal role in advanced feed strategies, and we look forward to helping our customers in maximizing this unprecedented opportunity."

Axtra® XAP – fuels efficiency and reduces costs

Axtra® XAP, a high-performance xylanase, amylase and protease enzyme combination, increases energy efficiency and improves bird performance in both corn-based and mixed-grain diets. Through optimized nutrient availability, this unique feed solution enables greater flexibility in dietary formulations, significantly reduces feed costs and improving profitability1. Additionally, Axtra® XAP allows producers to adapt their operations to meet consumer demands and industry trends, including free-range production and the use of all-vegetable dietary ingredients.

Syncra® AVI, a gut health revolution

Syncra® AVI combines two proven technologies – enzymes and probiotics – known to optimize gut health and maximize performance in poultry production. The synergistic combination of enzymes and probiotics in Syncra® AVI helps to create a favorable nutribiotic state that supports flock health, wellness, and productivity. Nutribiosis is the interplay between nutrition, microbiome, gut and immune function where they interact in the host.

The EU is the latest region to launch Axtra® XAP and Syncra® AVI. Both solutions are currently available in major markets around the world including North America, South Africa and Asia Pacific. Learn more about Axtra® XAP, Syncra® AVI and nutribiosis at https://animalnutrition.iff.com/.

[1] Internal experimental data

About Danisco Animal Nutrition & Health

Danisco Animal Nutrition & Health, part of IFF is an industry leader in nutritional health solutions with a comprehensive portfolio of feed enzymes, betaine, essential oils and probiotics. Through the lens of nutribiosis, IFF invests in science and innovation to help producers improve performance, increase liveability and support welfare in the face of increasing pressure to reduce or remove antibiotics from production systems. Danisco Animal Nutrition & Health capabilities are underpinned by the quality and quantity of our trials, including over 100,000 guts sampled from over 600 farms, investments in omics technologies and microbiome research, and collaboration with leading commercial, governmental and academic partners. For more information, visit animalnutrition.iff.com

Welcome to IFF

At IFF, an industry leader in food, beverage, health, biosciences and scent, science and creativity meet to create essential solutions for a better world – from global icons to unexpected innovations and experiences. With the beauty of art and the precision of science, we are an international collective of thinkers who partners with customers to bring scents, tastes, experiences, ingredients and solutions for products the world craves. Together, we will do more good for people and planet. Learn more at iff.com.

Avian Influenza Outbreak and Response Simulation Exercise held at Bhopal, Madhya Pradesh

The Department of Animal Husbandry, in partnership with the World Bank, is organising an Avian Influenza Outbreak and Response Simulation Exercise in Bhopal, Madhya Pradesh, on the 19th and 20th of June, 2024. This workshop comes at a crucial time as we face unusual outbreaks of Avian Influenza in Kerala and witness a global trend of spillovers to non-poultry species, including cattle. The programme was inaugurated by Dr. Abhijit Mitra, Animal Husbandry Commissioner, DAHD in presence of Shri. Gulshan Bamra, Principal Secretary, Department of Animal Husbandry, Government of Madhya Pradesh, Dr Dr. Hikuepi (Epi) Katjiuongua, Senior Agriculture Economist, The World Bank and Dr Atul Srivastava, Principal Chief Wildlife Warden, Government of Madhya Pradesh.

The two-day workshop aims to enhance preparedness and response capabilities for avian influenza outbreaks.The simulation exercise is attended by 40 participants from diverse sectors such as Human Health represented by the National Centre for Disease Control, Ministry of Health & Family Welfare, Government of India, Animal Husbandry Sector represented by Department of Animal Husbandry & Dairying, Government of India and State AHD , Wildlife represented by the Zoo and WWF, and Laboratory experts represented by ICAR-NIHSAD, RDDLs CDDL and State Veterinary Laboratory from Kerala, Odisha and Madhya Pradesh and International Organisations like the WHO and OFFLU signifying a monumental step towards a collaborative, One Health approach in tackling this formidable disease. The programme is facilitated by Dr. Lidewij Wiersma, Exert from the World Bank and Dr Frank Wong, WOAH Expert on Avian Influenza from CSIRO-Australian Cenrte for Disease Preparedness.

The simulation exercise focuses on effective outbreak detection, rapid response strategies, and inter-agency coordination to manage and contain the spread of avian influenza. The simulation exercise includes a series of interactive scenarios designed to mimic real-life outbreak situations, providing participants with hands-on experience in crisis management. Key topics include surveillance and monitoring systems, emergency response protocols, and public communication strategies.

As the world contends with an increasing number of zoonotic diseases, such initiatives are vital in building resilient health systems. The Department of Animal Husbandry and the World Bank remains committed to working together to mitigate the impact of avian influenza and protect both human and animal health.

Union Minister Shri Rajiv Ranjan Singh inaugurates a comprehensive workshop to strategize and empower the States and Union Territories for preparation of 21st Livestock Census

Union Minister of Fisheries, Animal Husbandry and Dairying, Shri Rajiv Ranjan Singh alias Lalan Singh inaugurated workshop today to strategize and empower the States and Union Territories (UTs) for preparation of 21st Livestock Census at Vigyan Bhawan, New Delhi. Ministers of State for Fisheries, Animal Husbandry and Dairying, Prof. S. P. Singh Baghel and Shri George Kurian were also present. The mobile application developed for 21st Livestock Data collection also launched by the Union Minister in the workshop.

Union Minister Shri Rajiv Ranjan Singh underscored the importance of the livestock sector to India's economy and food security. He called for meticulous planning and execution of the census, stressing that the data gathered would play a crucial role in shaping future initiatives and addressing challenges in the sector. Union Minister informed that the workshop aimed at ensuring a coordinated and efficient approach to the upcoming census scheduled during September-December 2024.

Prof. S.P. Singh Baghel addressed the workshop and highlighted the need for comprehensive training and capacity building at the grassroots level. He acknowledged the efforts of the department in organizing such a strategic workshop and encouraged the participants to actively engage in the training sessions to enhance their understanding and capabilities.

Shri George Kurian emphasized the integration of sustainable practices within the livestock sector. He pointed out that the census data would contribute to the National Indicator Framework of Sustainable Development Goals, thereby aligning with broader national and global sustainability targets.

Ms. Alka Upadhyaya, Secretary, Department of Animal Husbandry & Dairying highlighted the importance of this workshop in her address, underscoring the department's commitment to leveraging technology for accurate and efficient data collection. She emphasized the collective responsibility of all stakeholders to ensure the success of the 21st Livestock Census, which will play a critical role in shaping the future

policies and programs of the Animal Husbandry sector and urged them to leverage the latest technologies to ensure the success of the census.

The workshop included detailed sessions on the methodologies and guidelines for the 21st Livestock Census, training on the mobile application and dashboard software, and an open house discussion for addressing queries and concerns.

The Department of Animal Husbandry & Dairying, Ministry of Fisheries, Animal Husbandry & Dairying conducted a comprehensive workshop to strategize and empower the States and Union Territories (UTs) for preparation of 21st Livestock Census. The workshop featured a series of sessions beginning with a brief description of the 21st Livestock Census by the Animal Husbandry Statistics Division, followed by a detailed presentation from ICAR-National Bureau of Animal Genetic Resources (NBAGR) on the breed details of species to be covered in the census. The importance of accurate breed identification was emphasized, which is crucial for producing precise statistics used in various livestock sector programs and for the National Indicator Framework (NIF) of Sustainable Development Goals (SDG).

ICAR-NAARM & TNAU Organizes a Collaborative Student Sensitization Programme

ICAR-National Academy of Agricultural Research Management, Hyderabad and Tamil Nadu Agricultural University organized the Sensitization Programme Online on 'Entrepreneurship Development in Agriculture and Allied sectors' for the students of Tamil Nadu Agricultural University, Coimbatore and its constituent 18 colleges today.

The Chief Guest, Dr. V. Geethalakshmi, Vice-Chancellor, TNAU, Coimbatore, emphasized the critical role of agriculture in ensuring food security and economic stability in the era of changing climatic conditions. She also encouraged the students to be catalysts in initiating and establishing enterprises.

Dr. Ch. Srinivasa Rao, Director, ICAR-NAARM, highlighted the importance of strategic aggregation of farmers for input purchase, selling and marketing to optimize the supply chain and boost overall profitability. He also insisted that students of agriculture take entrepreneurship as a profession and lend jobs rather than seeking.

Dr. N. Venkatesa Palanichamy, Dean (UG), TNAU, Coimbatore, spoke about the university's expectations from the programme and underscored the significance of fostering entrepreneurial skills among agricultural students.

Dr. N.A. Vijay Avinashilingam, Addtl. CEO, a-IDEA highlighted the need for transforming innovative ideas into successful, market-ready ventures as startups and the role of incubators in startups survival.

Dr. B. Ganesh Kumar, Principal Scientist & Head, HRM urged acquiring the necessary skill sets required for a budding entrepreneur to establish an enterprise.

Miss. Bhargavi, Director, Nyasta Gramojvala Solutions, Hyderabad & an entrepreneur in irrigation solutions shared her experiences of turning her idea into a successful start-up.

About 6000 students and faculties virtually participated in this programme.

(Source: ICAR-National Academy of Agricultural Research Management, Hyderabad)

Names of the Elected Members to the Veterinary Council of India Declared Today

Justice (Ms) Asha Menon (Retd), Court Commissioner and Returning Officer has declared the names of the elected members to the Veterinary Council of India today. In exercise of the powers conferred by Section 3 (3) and Section 64 of the Indian Veterinary Council Act, 1984 (52 of 1984), read with sub-rule (3) of Rule 15 of the Indian Veterinary Council Rules,1985, the election to the 11 members in the Veterinary Council of India was held on 08.06.2024.

The election was held through e-voting portal (https://evotevci.dahd.gov.in) specially developed for the purpose by National Informatics Centre (NIC) of the Department. The voting for the members of the Veterinary Council of India was held on 08.06.2024.

Over 36,000 registered veterinary practitioners could exercise their voting rights using the portal and have appreciated the initiative of the Department of Animal Husbandry and Dairying in developing a user friendly portal enabling maximum number of voters without any hassle.

The Department of Animal Husbandry and Dairying conducts elections once in three years to elect eleven members to the Council. The Council also constitutes nominated members.

FAO and FSSAI Collaborate with Private Sector to Address AMR in the poultry sector in India

The Food and Agriculture Organisation of the United Nations (FAO) India and the Regional Office for Asia and the Pacific (FAORAP), in collaboration with the Food Safety and Standards Authority of India (FSSAI) and the National Food Laboratory (NFL) in Chennai, held the first of three joint sessions titled "Working together to fight antimicrobial resistance in Asia and the Pacific" in Coimbatore on June 13, 2024. The event was organised as part of the European Union's (EU) Tripartite Antimicrobial Resistance (AMR) effort to boost business sector involvement in tackling AMR. The training was attended by more than 50 people, including poultry producers, integrators, processors, feed makers, chick suppliers, fast food merchants, poultry farmers, and manufacturers of poultry antibiotics and medicines.

Dr. Arul Anand, Joint Director of FSSAI Chennai, emphasised the importance of poultry farming in our food chain and the critical need to combat antibiotic resistance to maintain food safety. He went on: "Antimicrobial resistance is a growing threat, and it is imperative that we adopt sustainable practices and innovative solutions to mitigate this risk."

Mr Milo Bystricky, FAORAP's Regional AMR Private Sector Food Safety Specialist, discussed the existing and prospective involvement of the private sector in addressing AMR in the poultry business. He said, "By implementing responsible practices and investing in innovative solutions, we can collectively ensure food safety and public health." The expertise, knowledge, and best practices of the private sector may be embraced, making our partnership critical in creating significant change and avoiding the risks associated with AMR."

The initial session focused on the poultry industry and began with an overview of AMR. The debate focused on AMR's economic effect as well as regulatory efforts in India to limit it. The event also discussed the existing and future responsibilities of the corporate sector in countering AMR. It also discussed the advantages and limitations of public-private partnerships and new avenues for cooperation to successfully combat AMR.

Notable business sector attendees included Dr. Shirish Nigam, President of the Indian Federation of Animal Health Companies (INFAH), as well as officials from Venkys, Suguna Foods, Lifeline Feeds, Allana, Vista Processed Foods, and Swamys Chicken. The public sector was represented by Dr Arul Anand, Joint Director, FSSAI Chennai, Mr Pankaj Kumar Meena, Assistant Director, FSSAI Delhi, Dr Gowthaman V, Assistant Professor, Tamil Nadu Veterinary and Animal Sciences University (TANUVAS), and staff from the State Food Safety Department.

The following joint aquaculture and fisheries sessions are scheduled for Vishakapatnam and Kochi in 2024, respectively. These sector-specific joint sessions are intended to customise strategies and solutions to each industry's particular difficulties, resulting in a complete and successful strategy to tackling AMR.

This cooperative endeavour intends to improve business sector leaders' awareness of AMR, emphasise its effect on their operations, and investigate how they may contribute to the solution. The project also strives to create collaborations between the business and governmental sectors, with the goal of bringing long-term

solutions from the private sector. The joint efforts of these sessions have laid the groundwork for continued collaborations and stakeholder engagement to successfully combat AMR.

FAO is dedicated to attaining universal food security by providing frequent access to safe food, including tackling AMR concerns. These combined meetings represent a major step forward in worldwide efforts to tackle antimicrobial resistance in the livestock and fishery sectors.

Virbac Takes 100% Ownership of Globion to Strengthen Indian Animal Health Sector

On June 21, 2024, Virbac completed the purchase of a minority investment in Globion, bringing its ownership to 100%. This deal follows the 74% majority interest purchase made on November 1, 2023.

Globion was founded in 2005 as a joint venture between the Suguna Group, a prominent participant in the Indian poultry sector, and Lohmann Animal Health, a German poultry vaccine manufacturer.

Globion has extensive experience making live and inactivated vaccinations for avian infections. Virbac, headquartered in Nice, Côte d'Azur, is therefore increasing its footprint in the fast growing Indian animal health industry.

Globion, headquartered in Hyderabad and employing roughly 120 people, produced approximately €12 million in sales in 2023.

This purchase allows Virbac to strengthen its position in India, the world's most populated nation, while also expanding its product offering for the chicken business.

This purchase is part of a series of strategic moves for Virbac, which includes the establishment of a subsidiary in Ireland and the acquisition of its distributor in the Czech Republic and Slovakia. Virbac also marked 30 years of participation in the Asia-Pacific area and 40 years of activity in Spain.

Tamil Nadu Government Announces 50% Subsidy for Rural Poultry Farmers

For the fiscal year 2024-25, the Tamil Nadu government has implemented a 50% subsidy plan for small-scale chicken companies in rural Tiruvannamalai district. Three beneficiaries have been identified in Tiruvannamalai district to carry out this initiative, which promotes the construction of small-scale poultry farming units (250 birds per unit).

Individuals interested and proficient in domestic poultry farming are invited to apply to the closest veterinary clinic or veterinary assistant in their community by July 5, providing they match the government's requirements. The state government would pay 50% of the entire cost, which amounts to Rs. 1,56,875/-, for the creation of domestic poultry farms. This covers the cost of building a chicken house, acquiring equipment (a feed tray and a water tray) and paying feed expenses for four months while the hens develop.

Beneficiaries must finance the remaining 50% of the expenses via bank loans or personal resources. Each client will get 250 four-week-old country chicken chicks from the Hosur district livestock farm at no cost. They must have at least 625 square feet of land to build a chicken shed, which should be located away from human population.

To be eligible, candidates must be permanent village residents. Widows, destitutes, transgenders, and those with disabilities will be given preference. The recipient and their family should not have previously received benefits from the Country Poultry Scheme in

2022-23 or 2023-24. The recipient is responsible for all building work as well as the purchase of feed and equipment.

Applicants must supply a copy of their Aadhaar Card, a Chitta of the farm location, a copy of the Inclosure, and supporting documentation for the payment of the 50% deposit (Bank Balance Details, Bank Loan Approval Details) for three years. In addition, they must provide an assurance to preserve the farm, along with documents proving non-benefit under the Country Poultry Scheme for 2022-23 and 2023-24. District Collector D Bhaskara Pandian has advised that the application should be made to the veterinary assistant at the closest veterinary facility.

Ganjam's Poultry Farms Flourish with Government Incentives, Providing Eggs to Odisha and Beyond

Despite being an agricultural area, Ganjam relies on bordering states for basic commodities like vegetables. Until recently, the area depended on Andhra Pradesh for eggs and fish. However, the situation has changed, as the area has become self-sufficient in terms of egg production.

According to Chief District Veterinary Officer Manoj Kumar Sahu, the district generates more than 40 lakh eggs per day to meet a need of 21 lakh. This was made feasible by the state government's enticing sponsorship packages and incentives for individuals in the poultry sector. With government incentives and follow-up action by the Veterinary Department, more individuals are entering the poultry farming industry. He said that eggs and chickens are now providing a sustainable source of income for many people. Women's self-help groups (SHGs) are also entering the poultry farming industry as a result of government efforts.

Ganjam now generates 50% of the state's entire egg requirements. The district not only supplies eggs to other regions of Odisha, but also to bordering West Bengal and Northeastern states. To increase egg production in the district, a Rs 50 lakh subsidy has been provided under the Mukhyamantri Krishi Udyog Yojana to encourage young people to start chicken farming.

The subsidy has now been enhanced to Rs one crore.As part of the scheme, students who start poultry farming with at least 1,000 hens would get an initial subsidy of Rs 3,03,640. The monies are then dispersed in accordance with additional procedures. This effort has been very effective, attracting a large number of new customers to the company.

Currently, the district contains 63 commercial layer poultry (egg-laying hen) farms, where lakhs of chickens are raised. According to government sources, up to 102 SHGs raise around 1,000 chickens, while 216 others care for more than 2,000 hens apiece. The CDVO said that a poultry farm in Aska contains 10 lakh birds. 250 farmers are involved in poultry production, with each raising more than 1,000 chickens.

Allana Group Expands into Chicken Processing with Seven New Facilities Across India

Allana Group, a major brand in the F&B business and a pioneer in the food processing market, intends to alter India's chicken industry with its entry into the sector. The firm, which is recognised as India's and the world's biggest frozen meat

exporter, is to spend around INR 1,000 crore in the establishment of seven cutting-edge chicken processing facilities throughout India.

This investment comes at a time when India's chicken business has seen remarkable development over the last two decades, owing to a growing population, rising spending power, urbanisation, and the spread of Western quick-service restaurants (QSRs). The need for economical and high-quality animal protein sources is increasing, with chicken consumption per capita predicted to rise from 5.6 kg to 14 kg, matching the worldwide average. With a current compound annual growth rate (CAGR) of 8%, India's grill meat industry is one of the country's fastest-growing categories. The Allana Group intends to capitalise on this trend by utilising its significant global meat processing knowledge to become a top chicken processor in both home and international markets.

"We are devoted to creating value for our consumers by providing high-quality, processed chicken products that satisfy international standards. Our objective is to use sophisticated processing methods and severe quality control techniques to guarantee that our goods are not only safe and sanitary, but also reasonably priced. We think that our strategic investment in the poultry business would not only broaden our product range, but will also help to address India's growing need for inexpensive protein. We are convinced that this daring approach will result in significant profits and strengthen our position as a market leader," said Asim Allana, promoter Family, Allana Group.

Furthermore, the business intends to develop seven poultry processing plants in several places throughout India, close to its current infrastructure, and will enter collaborative ventures with renowned poultry integrators to maintain a consistent supply of grill chicken across the nation. In the future, the firm intends to broaden its product offerings to include value-added items and ecologically friendly agricultural techniques. Allana Group's entry into the chicken sector represents a major shift in the Indian agribusiness environment. The company's devotion to quality, innovation, and customer satisfaction positions it to have a long-term effect on the industry.

India, which has the world's biggest buffalo population (57%), has become a worldwide leader in buffalo meat exports after realising its potential in 1969. Allana Group, the world's biggest manufacturer of frozen halal boneless buffalo, goat, and lamb meat, exemplifies this achievement. And innovation extends beyond manufacturing. Packaging technologies such as Vacuum Packed Chilled Meat (VPCM) increase shelf life. This strategic development is consistent with the industry's aim of providing safe, sanitary, and cost-effective protein products to Indian customers. Allana exemplifies this goal, striving to become India's first fully-stacked protein firm by using its experience in processing and exporting goat, sheep, and buffalo meat.

D2C Unicorn Licious Expands Offline, Aiming for 500 New Stores

Licious, a gourmet meat delivery start-up, has successfully carved a niche in the direct-to-consumer (D2C) space and now aims to expand into the competitive offline market. Established in mid-2015 by co-founders Vivek Gupta and Abhay Hanjura, Licious has grown significantly, reaching 20 cities with a revenue of Rs 746.38 crore in FY23, up from Rs 69.43 crore in FY19. The company became India's first D2C unicorn in October 2021 after raising $52 million from IIFL AMC's Late Stage Tech Fund.

The founders focused on changing consumer habits from purchasing meat at wet markets to buying it online at a premium. Despite initial challenges, including a lack of organized meat processing plants and limited funding, Licious built a robust supply chain with 100

delivery centers and five processing centers. Their investment in technology reduced wastage in delivery centers from 30% to 2.5%.

The COVID-19 pandemic accelerated the shift towards online meat purchases due to hygiene concerns, helping Licious expand rapidly. The company's success is attributed to its superior packaging, value-added products, and an evolving consumer base willing to spend more on branded, hygienically processed meat.

Licious plans to open 500 offline stores in the top 20 cities over the next five years to increase brand visibility and meet consumer demand for a premium shopping experience. These stores will offer a sophisticated alternative to wet markets, with options for custom cuts and sealed packaging. The company's existing supply chain infrastructure will support the offline expansion.

India's meat consumption is expected to rise, providing a favorable market for Licious. While the offline market is more challenging due to higher costs and perishability issues, Licious aims to leverage its established online brand and supply chain expertise to succeed. The goal is to achieve EBITDA positivity within six to eight months, despite current negative figures.

Licious faces competition from online and offline players, but its focus on quality, value-added products, and an integrated supply chain positions it well for future growth. The founders believe that the combination of online and offline presence will increase consumer frequency and overall revenue, setting the stage for a promising future in India's meat market.

AgriTech Startups Struggle to Compete with Industry Giants Amid Funding Challenges

Startups in the agriculture sector, including Indigo Ag Inc., Gro Intelligence, and Farmers Edge Inc., are facing significant challenges in disrupting traditional industry giants like Archer-Daniels-Midland Co. and Cargill Inc. Despite initially raising billions of dollars and attempting to apply the Silicon Valley playbook to agriculture, many of these startups are struggling.

Indigo Ag Inc., once a marketplace for grain trading and shipping, has cut jobs and reduced its operations. The company, which was valued at nearly $4 billion in July 2022, saw its valuation drop to about $200 million a year later. Gro Intelligence, which utilized satellite data and AI for crop predictions, is shutting down due to funding issues. Farmers Edge Inc., initially valued at C$835 million after its IPO, was taken private at a fraction of that value by Fairfax Financial Holdings Ltd. The company's CEO, Vibhore Arora, mentioned the need to reset the company's direction and focus on execution.

Startups often fail to connect with farmers, who are wary of sharing sensitive production data. Lance Lillibridge, an Iowa farmer, expressed concerns over data misuse and broken trust. Farmers, as small business owners, are cautious about adopting new technology due to the high risks associated with crop failures.

Established giants have aggressively pushed high-tech services to farmers, making it difficult for startups to gain a foothold. Farmers Business Network (FBN) faced significant pushback from larger rivals, resulting in antitrust litigation. The traditional agricultural sector's resistance to newcomers has hindered the startups' ability to disrupt the market effectively.

The global "agrifoodtech" sector raised $15.6 billion in 2023, a 50% decline from the previous year and the lowest since 2017. Many startups, including Indigo Ag and FBN, have seen their valuations drop significantly, leading to reduced investor confidence and funding difficulties. The agriculture sector's complexity and reliance on seasonal cycles make it difficult to apply the rapid-growth strategies

typical of Silicon Valley startups.

Successful disruption in agriculture requires a deep understanding of farming practices and the ability to build trust with farmers. Startups must tailor their solutions to the specific needs and challenges of the agricultural community. Companies like Indigo Ag are refocusing on their core strengths, such as seed coatings and carbon sequestration, rather than trying to cover a broad range of services.

The agriculture technology startup space is experiencing significant turmoil as companies grapple with the complexities of the farming industry and reduced investor funding. The sector's future success will likely depend on startups' ability to connect meaningfully with farmers, focus on core competencies, and navigate the competitive landscape shaped by traditional agricultural giants.

H5N1 Virus Leaps to Dairy Cattle, Prompting Urgent Action from USDA and CDC

The recent outbreak of highly pathogenic avian influenza (H5N1) among cattle herds in the U.S. has introduced a new layer of complexity to an already challenging situation. Once believed to be a threat confined to poultry, this virus's leap into dairy cattle—and its detection in a few humans—has raised alarms and underscored the need for heightened vigilance and coordinated action.

The initial reports of H5N1 affecting dairy cows might seem surprising, but they highlight a critical juncture in our understanding and response to avian influenza. Traditionally, H5N1 was notorious for its impact on poultry, but its adaptation to infect mammals, including cattle and domestic cats, poses significant risks. The diagnosis of respiratory symptoms in three dairy farmworkers, although mild so far, is a reminder of the potential for this virus to cause more severe issues if it begins to spread more easily among humans.

The U.S. response has been swift and multifaceted, involving numerous agencies and organizations. The Department of Agriculture (USDA) is at the forefront, deploying funds and launching a pilot program to enhance testing of dairy farms. The Centers for Disease Control and Prevention (CDC) and the Food and Drug Administration (FDA) are monitoring human health and food safety, respectively. This collaborative effort is crucial in managing both the immediate and long-term impacts of this outbreak.

The complexities of this situation are compounded by the diverse stakeholders involved—from federal agencies to state governments, from agribusinesses to family farms. Each plays a role in preventing the spread of H5N1, but effective response requires seamless coordination and clear communication. The USDA's pilot program to test milk samples from bulk tanks is a step in the right direction, aimed at mitigating economic impacts and facilitating the movement of dairy cattle across state lines. However, it also highlights the need for comprehensive testing and monitoring to gain a full understanding of the virus's spread.

Reluctance among some dairy farmers to test their herds, driven by concerns over potential restrictions or economic repercussions, presents a challenge. This hesitation can hinder efforts to control the virus and protect both human and animal health. Education and reassurance are essential to encourage more widespread testing and adherence to biosecurity measures. Farmers need to understand that early detection and reporting are vital to curbing the spread of H5N1 and minimizing its impact on the industry.

Public health officials are rightfully concerned about the potential for H5N1 to evolve into a more transmissible form among humans. While the current cases are relatively mild, the potential for a more severe outbreak warrants caution. Ensuring farmworkers have access to personal protective equipment and fostering trust between public health officials and agricultural workers are critical steps in managing this risk. It is essential that all individuals, regardless of their immigration status, feel safe and supported in reporting illness and seeking testing.

As we navigate this evolving crisis, it is crucial to remain vigilant and proactive. Increased surveillance, systematic testing, and broader understanding of the virus's behavior in different species will be key to preventing a larger public health crisis. Collaboration among government agencies, farmers, public health officials, and researchers will be instrumental in managing this outbreak and preparing for future challenges.

The current outbreak of H5N1 in dairy cattle is a stark reminder of the interconnected nature of human, animal, and environmental health. It calls for a unified response and ongoing vigilance to

protect public health, ensure food safety, and support the agricultural community. By working together and prioritizing both prevention and education, we can mitigate the risks posed by this virus and safeguard our health and agricultural systems.

Regional Cooperation Highlighted in African Animal Health Conference on Disease Control and Market Access

African leaders in the animal resource sector recently met to discuss animal health issues that limit the prevention and control of key transboundary and zoonotic illnesses. The two-day meeting, held in Nairobi, Kenya, on May 14-16, 2024, brought together chief veterinary officers (CVOs), delegates from Regional Economic Communities (RECs), and representatives from various countries to discuss the main capacity development needs required to strengthen the continent's animal health systems, as well as strategies for meeting standards and accessing markets while protecting public health.

Changes in global trading patterns, developing illnesses, and altering climatic conditions have had an impact on the safety and health of animal value chains, as well as the integrity of animal commodities for local consumption, value chain development, and international markets.

Within Africa, the Inter-African Bureau for Animal Resources (AU-IBAR) promotes and organises the use of livestock, fisheries, and wildlife as resources for human well-being and economic growth in African Union (AU) Member States. As a result, FAO assists member countries with policy development, capacity building, and technical assistance, while the World Organisation for Animal Health (WOAH) develops international standards to govern the safe trade of animals and animal products, while protecting public health and promoting market access.

The Global Framework for the Progressive Control of Transboundary Diseases (GF-TADs) promotes regional cooperation among AU-IBAR, FAO, and WOAH to prevent and control priority TADs that continue to pose challenges inside African Union Member States.

The first portion of the discussion focused on how African states may enhance their success in adopting WOAH standards while also taking into account their efficacy in international standard formulation. The meeting also focused on reviewing and developing African positions for presentation at the WOAH's 91st General Session, with the goal of meeting the continent's needs, improving livelihoods, fostering economic development, and ensuring food and nutrition security by promoting access to African animal products in international markets through sustainable livestock transformation.

The second day of the workshop focused on strategic talks about sustainable livestock transformation in Africa by improving One Health system capacity for high-impact disease management and antimicrobial resistance (AMR). The progress and difficulties in the management of major transboundary animal illnesses such as highly pathogenic avian influenza (HPAI), foot-and-mouth disease (FMD), contagious bovine pleuropneumonia (CBPP), and peste des petits ruminants (PPR) were described. AU-IBAR chaired the debate on the validation of the regional plan for controlling African swine fever (ASF), which was prepared with FAO help.

Given the pig sector's significance to many rural African people' livelihoods as well as the continent's food and nutritional security, the CVOs analysed and

assessed the draft regional strategy for ASF, with the goal of unanimously adopting the strategy and recommended action plan. Participants were also briefed about the recent 33rd FAO regional meeting, which adopted a resolution calling for the elimination of PPR by 2030.

The conference gave an excellent chance to update progress on the planned One Health framework for agrifood system transformation, as well as crucial updates on the Quadripartite partnership to help countries in implementing the One Health Joint Plan of Action (OHJPA). FAO's InFARM Platform for Antimicrobial Resistance Surveillance in Food and Agriculture, as well as the newly announced Reduce the Need for Antimicrobials on Farms (RENOFARM) program, were cited as examples of FAO's reaction to the global AMR problem.

Information sharing and relationship building encouraged the exchange of case studies on FAO assistance to nations. This conference helped to improve collaborations between AU-IBAR, WOAH, FAO, and other stakeholders. By promoting inter-regional communication and plan formation, participants may address obstacles and report success in priority disease control and eradication initiatives, therefore boosting animal health systems, One Health, capacity development, and investment leveraging.

FAO Workshops Highlight New Biosecurity Framework to Address Climate Change and Epidemic Risks

Biosecurity in animal value chains has become a worldwide health problem as a result of climate change, epidemic and zoonotic infections, antibiotic resistance, and a variety of sociopolitical and economic health factors.

On May 18, 2024, the FAO held a training at the Global Health Security 2024 conference in Sydney, Australia, to demonstrate how the Progressive Management Pathway for Terrestrial Animal Biosecurity (PMP-TAB) helps countries, industries, and producers assess and manage biological risks at the enterprise, community, and national levels.

The FAO PMP-TAB framework, which was developed in 2023, helps governments and livestock stakeholders accelerate the implementation of biosecurity techniques to avoid animal illnesses and increase community resilience. It does this by emphasising risk management via hazard identification and using a gradual, incremental approach. By incorporating local governments and commercial partners, it mixes technical and business components to drive behavioural changes, prioritises investments with existing resources, and suggests beginning with small trial projects that may be scaled up based on lessons learnt.

The four-hour workshop was created for policymakers and stakeholders engaged in managing or supporting biosecurity initiatives. Its goal was to strengthen relationships and encourage joint actions. It highlighted FAO's global efforts to increase biosecurity in the livestock industry, as well as the use of co-creation methodologies to create and prototype solutions within the FAO PMP-TAB framework.

The training emphasised the relevance of biosecurity in the cattle industry by exposing participants to the FAO PMP-TAB via a simulated exercise. FAO initiatives contribute to a growing amount of shared knowledge, research, policy ideas, and solutions for creating a safer and healthier world for everyone.

New FAO Training Course Aims to Strengthen Avian Influenza Vaccination Efforts

The FAO Virtual Learning Centres (VLCs) have established an online course to address highly pathogenic avian influenza (HPAI) concerns, providing a full learning experience on avian influenza vaccination management.

The training course, Vaccine Stewardship in the Prevention and Control of Highly Pathogenic Avian Influenza, seeks to provide veterinary workers with the skills needed to develop, execute, monitor, and appraise avian influenza vaccines and immunisation programs. It provides practical tools to help government veterinary agencies make vaccination decisions and efficiently administer immunisation programs in the field.

HPAI is a severe and highly infectious illness that has serious consequences for animal and human health, livelihoods, and the economy. The illness has also spread to other animal species, which may have serious ecological and biodiversity effects.

"This course is timely, given the alarming spread of HPAI in poultry, wild animals, and other mammals." Vaccination is one approach that is increasingly being studied for preventing HPAI at the cause. However, vaccination must be organised with well-defined goals and the use of high-quality, safe, and well-matched vaccines. "This course provides countries with the guidance they need," says Madhur Dhingra, FAO Senior Animal Health Officer.

The course covers avian influenza vaccination management in four weeks, touching a wide range of issues. These include selecting, procuring, and administering vaccines; identifying vaccine platforms; monitoring and surveillance of vaccinated flocks; vaccine failure; detecting and managing antigenic variant viruses; revising vaccination programs; and evaluating the poultry value chain to reduce HPAI risks.

"This innovative online course goes beyond theory by delving deeply into avian influenza vaccine stewardship." During the four weeks that the program is available, participants will be able to talk and share their experiences with one another as well as with the world's top subject matter experts," says Ms Maria DeLaPuenteArevalo, Virtual Learning Centre Coordinator.

This course will be modified, translated, and taught in several

FAO areas. The course can accommodate up to 300 people at once and is compatible with a variety of devices, including cellphones, desktops, and tablets. It is available after registering on the FAO VLCs website.

McDonald's Loses Exclusive Rights to 'Big Mac' for Poultry Products in EU Court Ruling

McDonald's no longer has the sole right to use the term "Big Mac" in regard to chicken burgers sold in the European Union, according to a verdict by the EU's top court. The American fast-food business popularised the moniker for giant burger sandwiches, which it registered as a trademark in the EU in 1996. However, after a court challenge by Supermac's, a competitor chain in Ireland, other firms will be able to use the term "Mac" to sell chicken goods or in the names of their chains.

The European Court of Justice ruled that McDonald's could not demonstrate that it had made true use of the trademark for a continuous period of five years. "McDonald's loses the EU trade mark 'Big Mac' in respect of poultry products," the tribunal's ruling said. McDonald's said in a statement that the court's judgement did not impair its ability to use the "Big Mac" trademark.
However, it does allow other chains to use the name, including Supermac, the company that initiated the case.

Supermac, which was started in Galway in 1978, serves beef and chicken burgers, as well as chicken nuggets, in 120 red and white-branded locations around Ireland. It has been involved in a seven-year legal struggle with the US business over the right to use trademark words such as "Mac". Supermac's managing director, Pat McDonagh, said that the verdict reflected a "common-sense approach to the use of trademarks by large multinationals."

Supermac's accused McDonald's of "bullying" smaller businesses by defending its trademarks and attempting to suppress competition. The controversy began in 2017, when McDonald's prevented Mr McDonagh from registering Supermac's as a trademark in order to expand outside Ireland.

Mr McDonagh replied that McDonald's did not use its trademark for restaurants, thus other businesses should not be barred from using the word "Mac" in their titles. "We knew when we took on this battle that it was a David versus Goliath scenario," Mr. McDonagh

said. "We wholeheartedly welcome this judgement as a vindication of small businesses everywhere that stand up to powerful global entities."

McDonald's made this announcement: "Our iconic Big Mac is loved by customers all across Europe, and we're excited to continue to proudly serve local communities, as we have done for decades." The company did not disclose if it intended to appeal the ruling.

The ECJ's decision revokes McDonald's trademark for restaurants and poultry goods, leaving it solely for red-meat burgers. Supermac's continues to fight McDonald's trademark in the UK, since post-Brexit EU trademark law no longer applies.

From Poultry Bedding to Organic Fertilizer: A Circular Economy Triumph in Serbia

A chicken farm in Vojvodina, Serbia, is successfully implementing the principles of the circular economy by using waste generated during the manufacturing process as raw material for other products. The farm combines wood processing, the poultry sector, and the production of organic fertilizer to minimize waste, conserve resources, and reduce greenhouse gas emissions.

The farm rears broiler chickens on a bedding made from sawdust and mineral sediments. After about 40 days, the bedding, along with the chickens' organic litter, turns into manure and goes through a composting process. The compost is sieved and left to mature before being processed into solid organic

fertilizer pellets. This process has been made more efficient with the purchase of two new machines for transport and sieving, which were financed by the Global Environment Facility (GEF). The use of fossil fuels has been reduced by 11%, and the estimated reduction in the carbon footprint is equivalent to 6500 tonnes of CO2 per year.

The organic fertilizer produced can be used in agriculture, horticulture, landscaping, and the restoration of neglected or devastated land. Farmers and entrepreneurs have reported positive results from using this fertilizer. For example, a cacti farmer has seen significant growth in his plants, with one cactus growing 120 cm in just one year, four times more than previous years using other techniques.

The organic fertilizer is also being used to rehabilitate the soil of mine tailings, contributing to the restoration of biodiversity in the area. The farm has already greened small parts of the tailings in Bor and Majdanpek and hopes to do more in the future.

This solution is part of the project "Reducing the carbon footprint of local communities by applying the principles of the circular economy in the Republic of Serbia - Circular Communities," implemented by the United Nations Development Programme (UNDP) in partnership with the Ministry of Environmental Protection and with financial support from the GEF. The project aims to accelerate the transition to a circular economy and has implemented 14 innovative solutions since 2022, thanks to $1 million in GEF support.

Overall, the chicken farm in Vojvodina demonstrates the successful implementation of circular economy principles by using waste as a raw material and producing organic fertilizer. This approach not only reduces waste and conserves resources but also has positive environmental impacts, such as reducing greenhouse gas emissions and restoring biodiversity in degraded areas.

MPS Egg Farms Achieves Carbon Neutrality with Dutch Kipster Concept and ABB Drives

MPS Egg Farms (MPS) is a family-

owned shell egg business operating seven farms in the United States, aiming to be the premier supplier of shell eggs by meeting the highest standards of customer service, quality, food safety, and animal husbandry. With 14 million laying hens, MPS produces 9 million eggs and delivers an average of 24 truckloads of eggs every day to customers including grocers, food distributors, and food service companies across the country. Food safety standards and sustainable processes have a high priority at MPS, with the objective of ensuring the best balance of quality, cost, environmental impact, and secure supply.

MPS has been inspired by the Kipster concept for sustainable production of eggs, which originated in the Netherlands and focuses on achieving better animal welfare, reducing food waste, and cutting carbon emissions to achieve carbon-neutral egg production. To help achieve these aims, MPS worked with Dutch system integrator Hotraco, which specializes in designing, building, and delivering motor-drive control solutions that manage and run ventilation, manure drying, feeding, and egg conveyor operations on egg and broiler farms.

To achieve precise and safe motor control needed to run these operations at optimal speeds, Hotraco installed 84 units of ABB's general purpose ACS580 variable frequency drives. The ACS580 drives give very accurate and energy efficient control of the speed and torque of the motors that run the fans and conveyors in the egg farm facilities of MPS.

MPS's Director of Sustainability Rachel Sanborn emphasizes the importance of sustainability and animal welfare for MPS Egg Farms, as consumers seek to learn more about where their food comes from and how it is produced. By implementing the Kipster concept, MPS has become one of the first organizations in the world to produce a carbon neutral egg while maintaining superior animal welfare standards.

The Kipster process uses upcycled feed, which is formulated by nutritionists and consists of food waste like broken pasta or out-of-spec flour from bakers and other food producers. Upcycled feed can reduce greenhouse gas emissions by up to 50% compared to conventional feed and means less land is needed to grow feed crops for the birds, allowing the land to be used for other purposes.

MPS's barns are solar powered, and they dries the mixture of manure, spilled feed, and feathers into fertilizer used by nearby farmers to grow their crops. By deploying these numerous sustainability steps, MPS goes a long way towards achieving full circularity in egg farming.

ABB drives are a crucial component in poultry farming, providing high reliability and security for fresh air supply and exhaust air handling. They ensure clean air circulation and automatic adaptation to power mains failure, reducing the risk of mortality. The installation of ABB drives has resulted in significant savings for MPS Egg Farms, with their first Kipster-type chicken house saving nearly 400,000kW in energy efficiency calculations, equivalent to roughly US$9,000 in annual savings.

Another cost-saving benefit is lower wear and tear on equipment and reduced maintenance labor costs due to the drive's slow start function, which is gentle on motors and equipment, allowing them to progressively ramp up to full running speeds. This gentle control avoids sudden movements that could damage fragile eggs on conveyor lines, causing production and monetary losses.

Lei Gommers, Global Business Development Manager for ABB Drives, explains that ABB drives are easy to program and set-up to manage critical factors in poultry farming, such as ensuring proper ventilation and handling harsh environments like farmhouses. The drives also mitigate harmonics, which can be a nuisance in poultry farms connected to weak power networks.

The ABB local channel partner is an invaluable asset when using ABB drives, assisting with product selection, project design, programming, technical support, and organizing additional educational opportunities. ABB and

its channel partner have played a key role in supporting MPS initiatives, making the goal of achieving full circularity in egg farming a big step closer for MPS Egg Farms. By adopting the Kipster concept and specifying ABB drives as a requirement for operations, the goal of achieving full circularity in egg farming has come a big step closer for MPS Egg Farms.

Chemical and Heat-Free: USask's New Egg Processing Method Achieves 97% Pathogen Inactivation

Scientists at the University of Saskatchewan (USask) have devised a novel, chemical- and heat-free egg processing procedure that efficiently inactivates germs on eggshells while retaining the physical and nutritional integrity of the eggs.

The unique procedure includes treating eggshells with engineered water nanostructures (EWNS), which are created by applying small water droplets charged with high voltage electricity.

To determine the technique's efficiency in eliminating foodborne pathogens, the researchers put infected eggs to the procedure before recovering and analysing the residual bacteria on the egg surfaces. The results showed that under EWNS operating conditions of 5 minutes of exposure time, 1 microlitre (µL) per minute per needle of water flow rate, and 9.0 kilovolts per centimetre (kV/cm) of electric field strength, egg surfaces contaminated by Escherichia coli and Salmonella can achieve a maximum inactivation efficiency of 97.6 and 80.4%, respectively.

Following processing, the eggs were scanned with an ultra-bright synchrotron light to generate extremely detailed 3D X-rays, a technique used at Canada's national synchrotron light source facility, Canadian Light Source (located at USask). The scans proved that the novel approach does not disrupt the egg's cuticle or shell, which offer natural protection against hazardous microorganisms. This has a benefit over typical heat and chemical washing methods, which may damage the egg cuticle and shell.

The innovative processing approach offers potential as a low-cost, environmentally friendly industrial solution. Moving ahead, the scientists will investigate how to scale the technique for commercial application

This study was funded by the Natural Sciences and Engineering Research Council of Canada, the Saskatchewan Ministry of Agriculture, and the Canadian Poultry Research Council.

Transforming Egg Packaging: Cascades Fresh GUARD EnVision™ Combines Style, Durability, and Sustainability

Cascades Inc. has launched Cascades Fresh GUARD EnVision™, a new packaging solution that is transforming the egg industry. This eco-friendly packaging is both stylish and solid, providing reliable protection while also offering up new visual options. Its sleeve holes and high-quality printing area challenge the standard format. The packaging's revolutionary, extremely resistant design is the product of extensive research and development focused on the demands of processors, merchants, and customers alike. Cascades Fresh GUARD EnVision™ improves egg visibility and protection, strengthens brand presence on shelves, and optimises packaging.

Cascades Fresh GUARD EnVision™ is a full solution for egg processors, including equipment, packaging, and technical knowledge to automate end-of-line activities. This provides them with a comprehensive, customised, and proven solution for increasing business efficiency.

"Our staff is dedicated to assisting clients in identifying solutions for all of their packaging requirements, from farm to factory to store to home. This innovation challenge sought to provide a solution that was sustainable, appealing, efficient, and complete. We are happy to have accomplished this via the hard work and skill of our heterogeneous team. "We are confident that this solution will allow us to accelerate our growth in the specialised egg industry," said Jérôme Porlier, President and Chief Operating Officer of Cascades Speciality Products Group.

This food packaging has a moulded pulp base and a sleeve made of coated recycled board. The product's durability for shelf stocking, transportation, and usage has been thoroughly evaluated. Cascades Fresh GUARD EnVision™ packaging improves egg protection by tripled stiffness and stacking strength, according to testing.1 Furthermore, the solution is environmentally friendly, with eco-designed packaging made entirely of recycled fibres, and How2Recycle® has pre-qualified it as extensively recyclable.

Cascades Fresh GUARD EnVision™ is now available in a 12-egg packaging.

Nutreco Unveils Garden of the Future: A Pioneering Hub for Phytotechnology and Sustainable Feed Solutions

Nutreco has opened its Garden of the Future, a new hub for its Phytotechnology program in Thurgau, Switzerland. The facility, which includes access to a 500 square meter experimental greenhouse for plant breeding and propagation, a 5,000 square meter vegetative mass propagation greenhouse, around 30 hectares of cultivation space, and a "Future Garden," showcases the work being done at the Garden of the Future for customers and journalists by members of the company's Exploration team.

Nutreco's initiative is completely different from anything the industry has produced in the past. It is focused on creating phytotechnology solutions, called Phyto-complexes, plants or plant metabolites, that when added to feed have physiological impacts that consistently support the performance, health, and welfare of aquatic species, farm, and companion animals. The company's approach is different from anything the industry has produced in the past, as it is focused on creating phytotechnology solutions, called Phyto-complexes, plants or plant metabolites, that when added to feed have physiological impacts that consistently support the performance, health, and welfare of aquatic species, farm, and companion animals.

Phyto-complexes are developed in direct response to existing market issues, identified in close collaboration with global Trouw Nutrition and Skretting customer-facing teams. Many of Nutreco's Phyto-complexes come from plants that have never been cultivated before, which requires the team at the Garden of the Future to have a

high level of plant production expertise to create vertically integrated plant supply chains for these new plants.

The discovery process involves identifying one specific plant with the right genotype that solves a specific problem, with a very specific, complex combination of active molecules. The team then defines suitable molecular targets involved in the process they want to impact, select biological models to test the efficacy of plant candidates on these targets, and select the plant candidates through a proprietary AI tool. Selection is made considering their feasibility in terms of growing conditions, processing, sustainability of the supply, regulatory framework and positioning, and costs, among others.

Once the specific genotype of a plant with the right phenotype (fingerprint) is identified, the team propagates it using modern technology. The team developed a true-to-type propagation method for each plant through vegetative cells to propagate the plant in vitro. The outcome from all these trials is put together in a manual, a standard operation procedure, that is shared with contract growers to produce exactly as it was developed. Nutreco has built its own network of growers that is continuously monitored to ensure the quality of the plants. Harvest and processing is done when the composition of the active compounds is optimal.

Nutreco's approach uses an entire part of the plant, the root or leaf, where these Phyto-complexes are located. Minimal processing is sought after, trying to use perennial plants and working with aerial parts so the plant does not need to be destroyed, whenever possible. Plants are grown and processed around the world, and supply takes advantage of Nutreco's global supply chain. The proprietary AI tools used for either the discovery or production process are based on data from its own biological models.

Skretting Aquaculture Innovation has developed a new technology for optimizing shrimp's metabolic energy, which is currently used in high-protein diets. This change has led to increased cost and nitrogen excess in the environment. Skretting's Discovery team was asked to find a plant that improves the animal's nutrient intake, aiming to optimize the animal's physiology, welfare, health, and productivity. The team has been working on functional diets for over three decades and is fine-tuning their approach to create a more holistic, functional, preventative diet.

The company has already conducted trials on fish and shrimp, and the technology is effective. They have been working in functional diets for over three decades and are combining it with other knowledge and expertise to create a tool that can make a measurable difference. The company's goal is to be in the driver's seat, steering the next generation of products, taking advantage of the unique opportunity between the plant kingdom and the animal kingdom.

In terms of aquafeed application, the company's products can go through the extrusion process and will be incorporated into Skretting aquafeeds. These stable products offer an advantage over essential oils, which are volatile and require traditional addition post-extrusion and during the coating phase. Customer feedback has been positive, and Skretting sees opportunities across the globe, not only in animal feeds.

In the future, Skretting sees potential for businesses outside of Nutreco in the industry that could benefit from these types of products once they have fully maximized the value for their internal businesses. The company's focus on customer needs and pain points allows them to find win-win situations that improve productivity, animal welfare, and sustainability.

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Improvement in BWT in open shed

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Improvement in BWT in EC shed

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Improvement in livability vis-à-vis antibiotic control

#1 FCR point represent third/last decimal point of 1000

*Majority of field trials were conducted at same farm with multiple sheds in integrations across various geographical locations and at different time of the year. Some of the integrators were generous in sharing complete production indices while others communicated the summary of the trial results. In the field trials, Improval™ MS was compared with antibiotic/probiotic/antibiotic + probiotic/probiotic + prebiotic control. Detailed reports availble on request.

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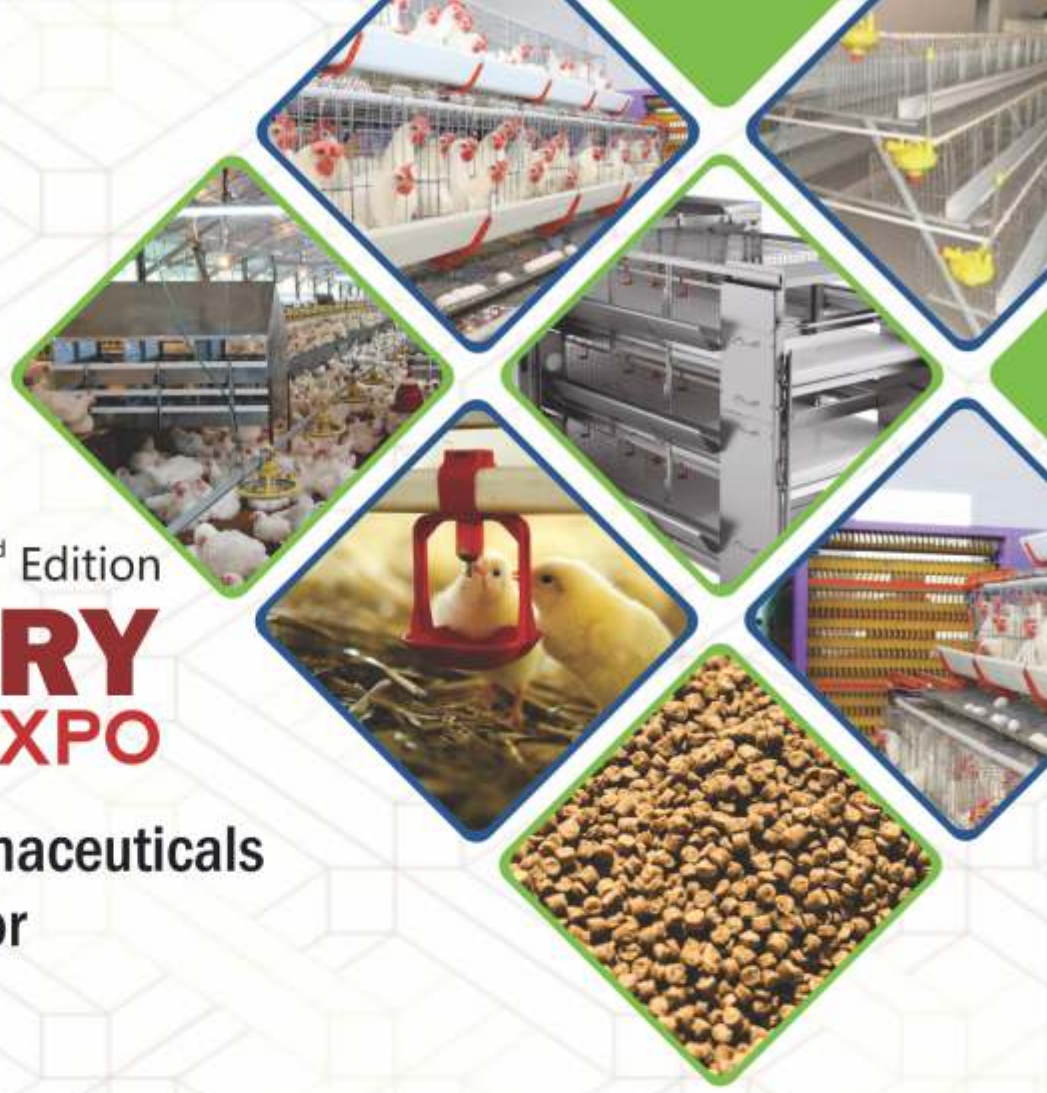

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Editorial Calendar 2024

Publishing Month: **January** Article Deadline : **28th, Dec. 2023** Advertising Deadline : **30th, Dec. 2023** Focus : **Opportunities and Challenges**	Publishing Month: **February** Article Deadline : **28th, Jan. 2024** Advertising Deadline : **30th, Jan. 2024** Focus : **Budget**	Publishing Month: **March** Article Deadline : **26th, Feb. 2024** Advertising Deadline : **28th, Feb. 2024** Focus : **Disease Prevention**	Publishing Month: **April** Article Deadline : **28th, March 2024** Advertising Deadline : **30th, March 2024** Focus : **Summer Stress Management**
Publishing Month: **May** Article Deadline : **28th, April 2024** Advertising Deadline : **30th, April 2024** Focus : **Cold Chain**	Publishing Month: **June** Article Deadline : **28th, May 2024** Advertising Deadline : **30th, May 2024** Focus : **Nutrition**	Publishing Month: **July** Article Deadline : **28th, June 2024** Advertising Deadline : **30th, June 2024** Focus : **Biosecurity**	Publishing Month: **August** Article Deadline : **28th, July 2024** Advertising Deadline : **30th, July 2024** Focus : **Sustainability**
Publishing Month: **September** Article Deadline : **28th, August 2024** Advertising Deadline : **30th, August 2024** Focus : **Egg Production & Processing**	Publishing Month: **October** Article Deadline : **28th, September 2024** Advertising Deadline : **30th, September 2024** Focus : **Processing & Packaging**	Publishing Month: **November** Article Deadline : **28th, October 2024** Advertising Deadline : **30th, October 2024** Focus : **Winter Stress**	Publishing Month: **December** Article Deadline : **28th, November 2024** Advertising Deadline : **30th, November 2024** Focus : **Food Safety**

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EGG
Daily and Monthly
Prices of June 2024

Name Of Zone / Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Average
NECC SUGGESTED EGG PRICES																															
Ahmedabad	520	520	520	520	500	500	500	505	510	525	545	550	550	550	520	500	500	505	510	525	530	535	535	535	535	535	535	535	540	545	524.50
Ajmer	452	452	452	432	432	435	440	445	460	480	500	500	480	450	450	435	455	460	500	500	500	500	500	500	500	500	505	510	515	520	475.33
Barwala	425	425	410	410	410	410	414	418	431	448	463	463	443	435	435	435	435	440	462	466	473	481	484	484	484	488	493	504	509	513	453.03
Bengaluru (CC)	580	580	580	580	555	530	505	510	515	525	585	590	595	595	575	555	555	555	555	555	560	560	560	560	560	560	560	560	560	560	559.17
Brahmapur (OD)	490	480	480	465	465	465	465	465	470	485	530	530	530	530	505	490	490	490	495	500	510	520	525	525	525	525	525	525	535	540	502.42
Chennai (CC)	570	570	570	570	570	540	520	520	520	530	600	600	600	600	600	580	580	560	560	560	570	580	580	580	580	580	580	580	580	580	570.33
Chittoor	563	563	563	563	563	533	513	513	513	523	593	593	593	593	593	573	573	553	553	553	563	573	573	573	573	573	573	573	573	573	563.33
Delhi (CC)	450	450	450	440	440	440	440	440	450	460	500	500	500	500	480	480	460	470	480	480	490	500	500	505	505	505	515	525	531	531	480.57
E.Godavari	485	485	485	445	445	445	450	450	455	470	525	525	525	525	490	475	475	475	480	485	495	505	510	515	515	515	515	515	520	525	490.83
Hospet	535	535	535	535	510	485	460	465	470	480	540	545	550	550	530	510	510	510	510	510	515	515	515	515	515	515	515	515	515	515	514.17
Hyderabad	505	505	505	505	480	430	430	440	445	500	520	525	530	530	510	490	490	495	500	505	510	515	515	515	515	515	515	515	515	520	499.67
Jabalpur	480	-	480	480	470	470	470	470	480	490	530	540	540	520	520	510	510	510	520	535	550	550	550	550	525	525	525	530	535	545	514.14
Kolkata (WB)	515	500	500	500	485	485	485	485	510	540	540	540	540	540	530	510	500	500	525	530	550	565	575	575	540	555	560	565	590	602	531.23
Ludhiana	422	422	422	422	410	410	410	414	417	432	454	470	463	448	430	430	430	432	445	462	462	475	482	482	482	482	489	495	503	510	450.23
Mumbai (CC)	570	570	570	570	545	520	505	515	520	545	575	595	600	600	590	575	560	565	570	575	580	585	585	585	585	585	585	585	585	590	569.50
Mysuru	580	580	580	580	555	533	510	515	520	545	590	595	597	597	577	557	557	557	557	557	565	565	565	565	565	565	565	565	565	565	562.97
Namakkal	535	535	535	535	510	485	460	465	470	480	540	545	550	550	530	510	510	510	510	510	515	515	515	515	515	515	515	515	515	515	514.17
Pune	560	560	560	560	545	520	510	520	525	575	595	600	600	600	590	580	570	570	570	580	585	590	590	590	590	590	590	590	590	590	572.83
Raipur	485	485	485	485	465	450	450	455	465	501	535	535	535	530	515	505	505	505	510	535	540	550	550	550	550	535	535	540	545	550	512.70
Surat	540	540	540	540	530	510	510	515	525	555	565	575	580	580	560	545	545	545	555	560	565	570	570	570	570	570	570	570	570	575	553.83
Vijayawada	490	490	490	450	450	450	450	455	460	475	530	530	530	530	500	480	480	480	485	500	505	510	510	515	515	515	515	520	525	535	495.67
Vizag	500	500	500	450	450	450	450	455	460	475	530	530	530	530	500	500	500	500	500	500	505	515	520	525	525	525	525	525	530	540	501.50
W.Godavari	485	485	485	445	445	445	450	450	455	470	525	525	525	525	490	475	475	475	480	485	495	505	510	515	515	515	515	515	520	525	490.83
Warangal	507	507	507	507	482	432	432	442	447	502	522	527	532	532	512	492	492	497	502	507	512	517	517	517	517	517	517	517	517	522	501.67
Prevailing Prices																															
Allahabad (CC)	500	500	500	490	490	476	476	486	500	514	548	548	548	548	524	514	514	514	538	542	548	562	562	562	552	552	562	567	567	581	529.50
Bhopal	485	485	485	485	485	475	475	475	485	500	535	540	540	540	520	510	510	510	520	540	545	550	550	550	540	530	520	530	540	550	516.83
Indore (CC)	490	490	490	475	470	470	475	485	500	520	540	540	520	490	490	500	500	505	530	530	530	530	530	530	530	530	530	535	550	550	511.83
Kanpur (CC)	486	486	486	476	476	476	476	476	490	505	524	524	524	524	500	500	500	500	524	524	538	552	552	552	552	552	567	567	567	576	518.40
Luknow (CC)	500	500	500	493	493	483	483	483	500	517	540	540	533	533	527	517	517	517	533	533	550	567	567	567	567	567	567	567	583	583	530.90
Muzaffurpur (CC)	490	490	490	475	475	475	475	483	495	515	530	530	530	530	500	500	500	505	525	530	535	545	550	550	550	552	560	570	570	580	520.17
Nagpur	495	495	495	495	485	470	470	475	485	500	555	555	555	555	520	540	530	530	540	545	560	560	560	560	560	550	540	540	550	560	527.67
Patna	490	490	490	475	475	475	475	483	495	515	530	530	530	530	500	500	500	505	525	530	535	545	550	550	550	552	560	570	570	580	520.17
Ranchi (CC)	505	505	495	486	486	486	486	486	490	505	524	533	533	533	524	524	524	524	524	533	540	540	543	552	552	552	552	557	571	576	524.70
Varanasi (CC)	490	490	490	476	467	467	473	477	483	500	517	517	517	500	500	487	487	493	510	509	523	533	533	533	533	533	550	557	567	567	509.30

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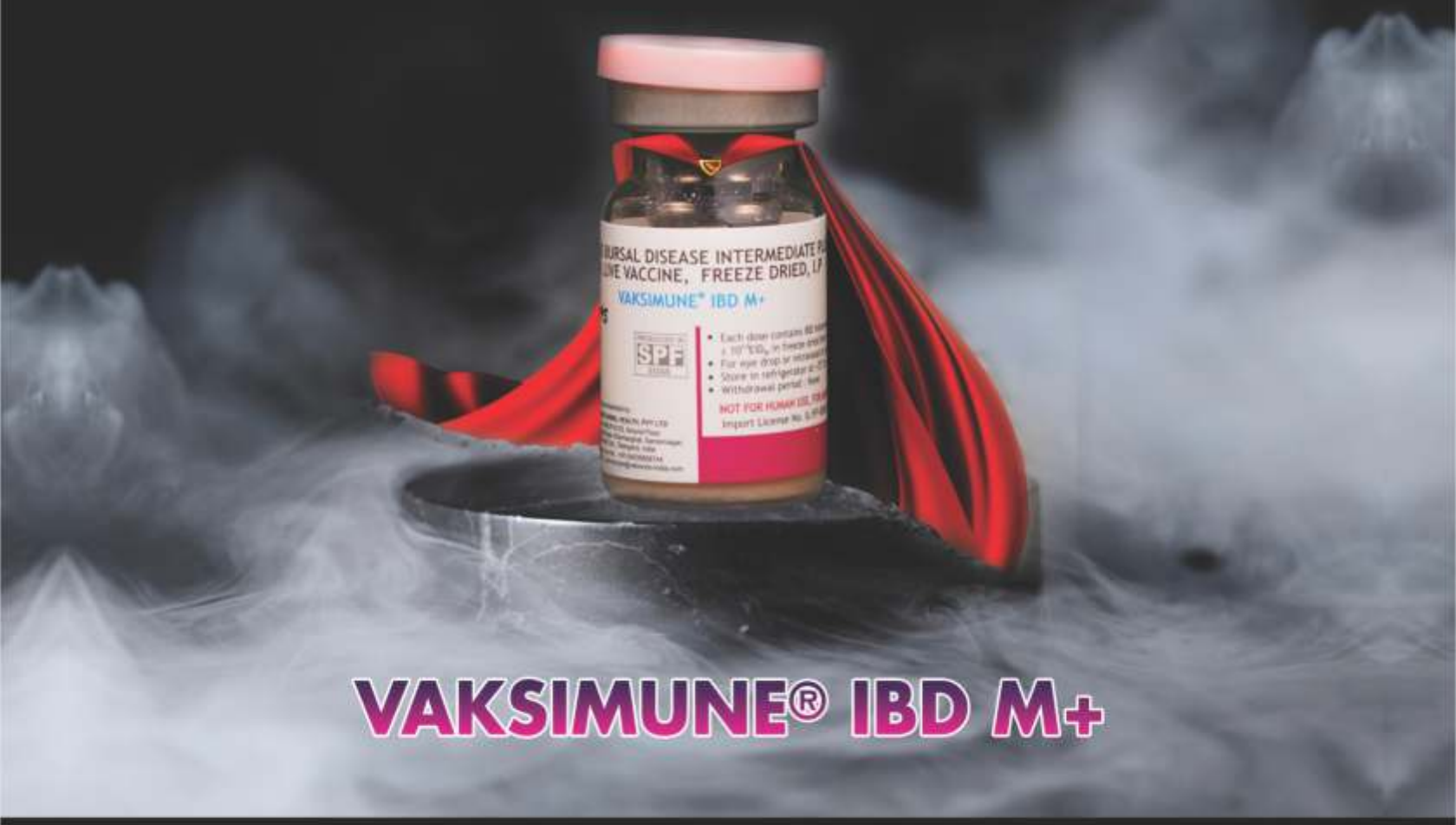

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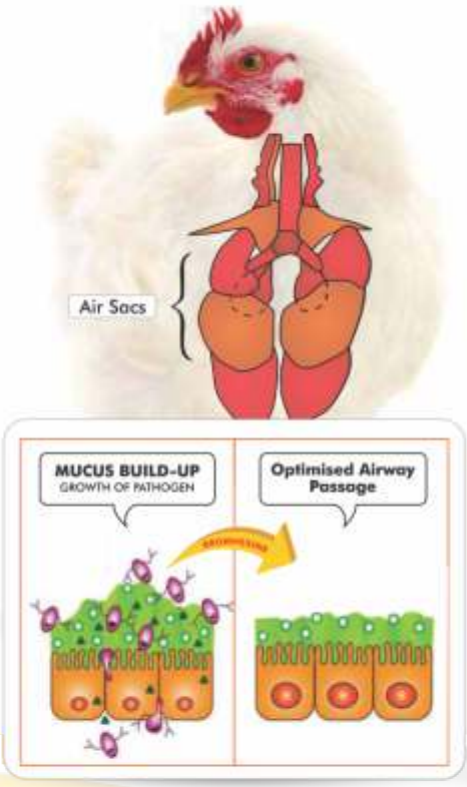

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