



₹150

www.indianpoultryreview.com

POULTRYREVIEW

THE MAGAZINE OF INDIAN POULTRY INDUSTRY | DECEMBER 2023



COVER

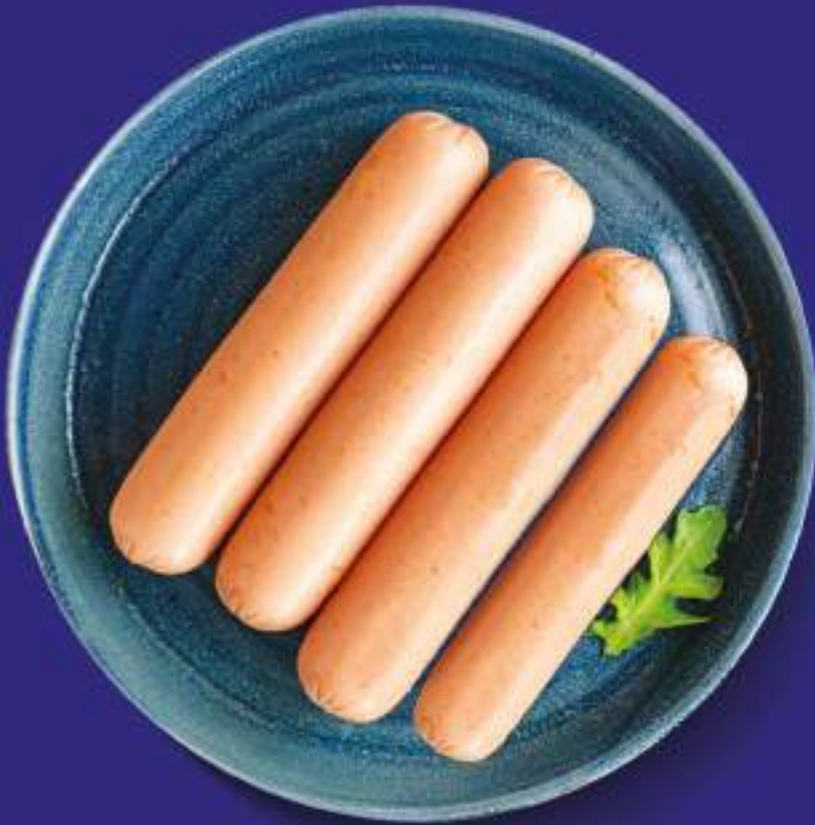
Disease Syndromes and Complexes in Poultry

ARTICLE

The Incredible Egg

#chickenloverskheyebolo

TOTAL[®]



Rise and shine to the
ultimate breakfast
indulgence!

Dive into a plate of pure bliss with
our irresistible assortment of cold cuts.

Chicken Cheese Onion Sausages

Chicken Cocktail Sausages

Chicken Classic Sausages

Chicken Classic Salami

Chicken Italian Salami

Chicken Black Pepper Salami



THE RIGHT BIRD FOR

INDIA

is the

**ROSS
308 AP**

For More Information Contact:

**Aviagen India Poultry
Breeding Company
Private Limited**

+91 4252 233 650

info@aviagen.com

www.aviagen.com



D₃

When there is

Why need cubic polynomial **Alpha Beta Gamma**

Panbonis®

Vitamin D₃ Metabolites ... born by Research, protected by Patents

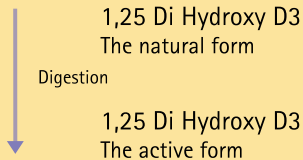
Globally renowned

Widely accepted

Highly efficient

The new and natural key element in animal nutrition

Panbonis®



Vit D₃ directly into the intestinal tract,
No intermittent steps

- 100% natural & readily available
- Supports the essential function of Vitamin D₃
- Improves calcium & phosphorus utilization in feed
- High processing and storage stability

100% Natural Not Synthetic

Panbonis® 40



20 Kg

Panbonis® Premix



1 Kg



10 Kg

Panbonis – Synonym for healthy bones & eggs



For more information please contact:

Glamac International Pvt. Ltd.,

413, Orion Business Park, 4th Floor, Kapurbawadi,
Ghodbunder Road, Thane (W)- 400610, Mumbai, India.

Tel.: 022-25841542, +91 9930302653

• www.glamac.com • Email: info@glamac.com

Herbonis

Independent by Nature

Herbonis Animal Health GmbH
Rheinstrasse 30
CH-4302 Augst BL, Switzerland
www.herbonis.com

Contents

Editorial.....	05
Indian Research.....	06-07
Research Abroad.....	10-11
Cover Story.....	20-25

Articles

Dr. Priyanka Kamble	
O.P. Singh.....	13-14
Tarun Shridhar.....	16-17
IPR Espresso.....	26-27
Feature.....	28
Product Feature.....	32-34
Events.....	37-55
Hot Beat.....	59



Editorial Board



Prof. (Dr.)
J.L. Vegad



Prof. (Dr.)
R.N. Srinivas Gowda



Prof. (Dr.)
Purnendu Biswas



Prof. (Dr.)
P.K. Shukla



Prof. (Dr.)
G. Devegowda



Mr. Vijay Sardana



Prof. (Dr.)
Ajit S. Ranade



Mr. Tarun Shridhar

Managing Editor : G. N. Ghosh • **Executive Editor :** Sanjoy Mukerji • **Associate Editors :** Shelley Ghosh | G. G. Narayana
Advertisement Sales Office - Kolkata : Rajib Biswas, 57-B, Townshend Road, Kolkata 700 025 • E-mail : sanjoy@indianpoultryreview.com
Designed by Amit Naskar

We Celebrated
 “International Egg person of the year 2023”
 Sri Chitturi Jagapati Rao
 at Hotel Daspalla, Hyderabad on
 23rd November. The event was attended by
 Farmers & Industry people.
 Here are few photos from the event



Sri Chitturi Jagapati Rao garu with his Family



Mr. Jonathan Cade, President Hy-Line International handing over the "International Egg Person of the year" to Sri. Jagapathi Rao garu.



Mr. Venkat Rao - Layer Business Head Srinivasa Farms



Sri Chitturi Jagapati Rao & Mr. Chitturi Suresh with Hy-Line International Team



Mr. U Ganesh, Mr. Syed Hameed, Mr. Marli Manohar, Mr. Akala Murty & Mr. Ramamohan Kapavargu - Senior Most employees of Srinivasa Farms



Mr. Shekar Reddy, Mr. Sathyshila Reddy, Mr. Vijayashakar Reddy, Mr. K. Mohan Reddy, Mr. Sripathi Rao, Dr. Balaswamy, Mr. Pathuri Venkat Rao, Mr. S. Mohan Reddy, Mr. Kondal Rao & Mr. A. Shekar Reddy



Sri Chitturi Jagapati Rao & Mr. Chitturi Suresh with Mahida PF, Surat Gujarat



Mr. Chitturi Suresh, Mr. Mohan Reddy (Tamil Nadu), Mr. Sankar Rao, Mr. Ramu, Mr. Vengal Rao, Mr. Ganesh Chowdary, Mr. Mukunda Reddy, Mr. Lokesh, Mr. Sampath & Dr. Anil Rakoti



Sri Chitturi Jagapati Rao & Mr. Chitturi Suresh with Mr. Krishnamurthy (Egg Bank)



Mr. Sripathi Rao, Mr. KS Reddy, Mr. K. Mohan Reddy, Mr. V. Abhishek Reddy & Mr. Sudakar



Sri Chitturi Jagapati Rao & Mr. Chitturi Suresh with Srinivasa Team members from Andhra Pradesh





Well Deserved Recognition

Hyderabad, the heritage city of Telangana, has garnered international recognition as a poultry – vibrant city. This has been reinforced by its being the host-city for Poultry India Expo, South Asia’s largest poultry industry expo that is being organised for the last fifteen years by Indian Poultry Equipment Manufacturer’s Association (IPEMA).

The genesis of Poultry India Expo aimed at fostering innovation and sustainable research and development within the global poultry sector. The objective was to harness the progressive traits of the local poultry industry, enabling their representation and impact in an international scale. Acknowledgement within the realm of nutritive poultry production necessitates collaboration among public and private entities alongside civic institutions. This collaboration strengthens resilience against burgeoning challenges like inequality, climate change , urbanisation, pollution , and various other issues.

Hyderabad also serves as the launching pad for numerous eminent figures in the Indian poultry industry, notably Padmashree Dr. B.V.Rao and Chitturi Jagapati Rao. Their pioneering contributions have significantly advanced the Indian poultry sector through innovative initiatives, earning both themselves and the city widespread acclaim. The city thrives as a dynamic hub hosting leading poultry enterprises, enriching its already vibrant poultry landscape. The recognition of Hyderabad as a pivotal hub within the country’s poultry industry is poised to elevate India’s standing within the global poultry domain.

G. N. Ghosh
Managing Editor

Indian Research

Effect of Location, Seasons and Sex on Nutritional Status of Free-Range Indigenous Chicken

R. Islam*¹, D. Sapkota², J. D. Mahanta² and S. Islam¹

¹Dept. of Animal Husbandry & Dairying

Biswanath College of Agriculture, AAU, Biswanath Chariali, Biswanath, Assam, India

Dept. of Poultry Science

College of Veterinary Science, AAU, Khanapara, Guwahati, Assam

*Corresponding author : rafiql.islam@aau.ac.in

A comprehensive study was conducted to assess the effect of sex, location and seasons on nutritional status of free-range indigenous chicken through physical and chemical analysis of crop contents. Altogether, 160 indigenous free-range chickens (80 males and 80 females) of 7 to 10 months of age were collected randomly from selected villages of different zones viz. Lower Brahmaputra Valley Zone (LBVS), Upper Brahmaputra Valley Zone (UBVS), Central Brahmaputra Valley Zone (CVBZ) and North Bank Plain Zone (NBPZ) of Assam during different seasons viz. Pre-monsoon (PRM), Monsoon (MON), Post-monsoon (PTM) and Winter (WIN) seasons and were slaughtered and their crop contents were separated out for physical and chemical analysis. The study showed that grains and by-products were significantly ($P < 0.01$) higher during PTM season followed by WIN, PRM and MON season. The kitchen wastes contents were higher ($P < 0.01$) during PRM season followed by MON, WIN and PTM seasons. Comparatively higher proportions of green forages were recorded in MON season than other seasons. There were no significant differences of the crop contents like grains and by-products, kitchen wastes, insects and worms and indigestible miscellaneous particles across zones, while green forages contents were significantly ($P < 0.01$) higher in CBVZ than other zones. The results also revealed that the crop contents viz. kitchen wastes, green forages and indigestible miscellaneous particles were significantly ($P < 0.01$) differed between sexes, while pins and by-products and insects and worms did not differ significantly between hen and cock. The DM contents was significantly ($P < 0.01$) higher in PTM season than other seasons. The proportions of CP were significantly ($P < 0.01$) higher during MON season. The CF contents were significantly higher in PRM season than other seasons. The Ca contents were higher in PRM season as compared to other seasons. The P contents did not show any significant differences across seasons. The proportions of DM were higher in LBVZ than other zones. The CP contents in LBVZ were significantly higher as compared to other zones, p proportions of DM, CP, EE, total ash, Ca and P in cock did not differ with hen; however, the CF

contents in cock were significantly higher than that of hen. From this study, it is found that the scavenged feed resources base (SFRB) is deficient in some major nutrients and hence could not be fulfilled nutritional requirement of free-range chicken for optimum production. Therefore, it is very imperative to provide incremental protein-rich feeds along with minerals to free-range chickens to improve their production potential.

Source : XXXVII Indian Poultry Science Association Conference, November 2022

In Vitro Assessment of Moringa Oleifera Leaves as a Source of Non Conventional Livestock Feed

J Srivastav*, R. Nehra, R. K. Dhuria, J. Srivastav and K. Goswami

Department of Animal Nutrition, College of Veterinary and Animal Science.

University of Veterinary in 3 (± 0.139), 14.08 (Sciences. Bikaner 334001

(Rajasthan)

*Corresponding author: drjagriti.srivastav@gmail.com

Scarcity of animal feeds and high price of available feed resources in India is the major issue responsible for low productivity of animals. Incorporation of low-cost feed ingredients, with high nutritive value, in animal feed can serve as a helpful approach to overcome this problem. Therefore, the present investigation aims to evaluate the beneficial properties and optimum level of incorporation of *Moringa oleifera* leaves in the diet of livestock by using *in vitro* analysis technique. In the present study, *in vitro* dry matter digestibility (IVDMD) as well as organic matter digestibility (IVOMD) and *in vitro* total gas production (IVTGP) of complete feeds having different levels of *Moringa oleifera* leaves were estimated. Six treatment groups of complete feeds T_1 , T_2 , T_3 , T_4 , T_5 and T_6 , considered in the study were composed with 0, 3, 6, 9, 12 and 15% of *Moringa oleifera* leaves respectively by replacing equal proportions of cotton seed cake present in feed. The results indicated a significant ($p < 0.01$) linear increase in the values digestibilities and gas production with increasing levels of *Moringa oleifera* leaves in the complete feed. Highest *in vitro* digestibility values at 48 and 72 hour of incubation and total gas production in 24 hour were observed in T_6 group containing *Moringa oleifera* leaves at the level 15% of complete feed. The observations concluded that *Moringa oleifera* leaves might be used as non conventional protein source. Supplementation of *Moringa oleifera* leaves at 15% level of complete feed was selected as optimum level of incorporation.

Source : XXXVII Indian Poultry Science Association Conference, November 2022

Inclusion of Mushroom Waste in the Diet as Non-Conventional Feed Additive in Broiler Chicken

M.T. Banday, S. Adil, M.A. Wani, I.U. Sheikh*, A.A. Khan and S. Shubeena

*Division of Livestock Production and Management,
Faculty of Veterinary Sciences and Animal Husbandry,
Shuhama, SKUAST-Kashmir-190006, Jammu and Kashmir, India
Corresponding Author's Email: aadilsheikh5@gmail.com

The study was conducted to investigate the effect of mushroom waste on performance, carcass traits economics of broiler chicken. The Cobb broiler chicks (n=240) were randomly assigned to five groups having four replicates of 12 birds each. The duration of the experimental period was 42 days. Birds in control group (T₁) were fed the basal diet, whereas mushroom supplementation to basal diet at the inclusion level of 1.5 and 2% was done in T₂, T₃, T₄ and T₅ respectively. The results indicated that there was a non-Scant (p>0.05) linear increase in the body weight gain of broiler chicken over control with increase in level of mushroom supplementation from 0.5 to 2%. No significant (p>0.05) effect was found in feed consumption of birds among various treatment groups including control. The FCR was also found to improve linearly over control with increase in the level of mushroom supplementation in birds from 0.5 to 2%. There was significant (p>0.05) difference among various carcass traits between control and mushroom supplemented groups. The profitability increased with mushroom supplementation over control group with returns in the group fed 2% mushroom in the diet. In conclusion, 2% mushroom waste supplementation in broiler chicken improved the performance and profitability of a broiler enterprise.

Source : XXXVII Indian Poultry Science Association Conference, November 2022

Effect of Gut Acidifier & Probiotics on Gut Health and Performance of Broiler Chickens

Edwin, S.C.* and A. V. Suresh

*Veterinary College and Research Institute (TANUVAS), Tirunelveli -627 358
Corresponding author: drscedwin@gmail.com

A five week feeding trial was conducted on Cobb broilers in a R&D farm located in South India to evaluate the effects of adding a gut acidifier (Semalex[®] manufactured by Bentoli) and probiotics (Micromix[®] 3B manufactured by Bentoli). Mash feeds produced in a commercial feed mill were used to create six diets for testing. The Positive Control (PC) diet was the commercial feed formula that contained the antibiotic growth promoters (AGP) BMD and Colidox at 250 and 500 g/MT, respectively. A Negative Control (NC) diet was created by deleting the AGP from the commercial feed formula. To the PC formula, Semalex[®] was added at 2 kg/MT to create a test diet coded PC+GA. Another test diet, PC+GA+PB, was created by adding Semalex[®] at 2 kg/MT and Micromix[®] 3B at 1 kg/MT. Similarly, two test diets: NC+GA and NC+GA+PB, were

created by adding Semalex[®] at 2 kg/MT, and Semalex[®] at 2 kg/MT and Micromix[®] 3B at 1 kg/MT, respectively to the NC formula. The birds were provided unrestricted access to the feed bin or pens. Each diet was randomly allotted to 8 replicate pens. Each 54 sq.ft. pen housed 35 mixed sex broilers. Mean body weights of the birds at the end of five weeks were 1999, 1999, 2020, 2017, 2003, and 1969 g, for PC, NC, PC+GA, PC+GA+PB, NC+GA, and NC+GA+PB, respectively. Corresponding FCR were 1.45, 1.45, 1.43, 1.44, 1.44, and 1.47, respectively. Mortality in the broilers fed PC was 2.14%. Mortality in birds fed NC, PC+GA, PC+GA+PB, NC+GA, and NC+GA+PB were 1.43, 0.71, 2.14, 1.07 and 1.79%, respectively. Corresponding improvements in performance were not evident in this trial most likely because the birds did not face any dietary, environmental or pathogenic challenge during production.

Source : XXXVII Indian Poultry Science Association Conference, November 2022

Effect of Essential Oil and Organic Acid Supplementation on Growth Performance in Broilers

S. Kumar*, S. Sihag, Ramsawroop and A. Singh

*Department of Animal Nutrition, College of Veterinary Science, LUVAS (Hisar),
125004*

**Corresponding author: drskverma05@gmail.com*

The antimicrobial properties of Essential Oils have encouraged their use as a natural replacement for antibiotic growth promoters in animal feeds. In addition to the positive effects of EOs against the colonization and proliferation of pathogenic bacteria, EOs have been shown to improve nutrient digestibility and broiler performance (Amerah *et al.*, 2011). Organic acids are gradually being employed in animal nutrition for both their nutritional value and their antimicrobial effects. Organic acids have shown positive results in poultry production, by reducing the intestinal pH and bacterial growth intolerant to pH changes (Ao *et al.*, 2009; Pirgozliev *et al.*, 2008). An experiment was conducted for a period of 42 days on a total of two hundred forty, day-old broiler chicks which were randomly divided into six treatment groups i.e. T₁ (basal ration with antibiotic), T₂ (0.025% thyme oil), T₃ (0.05% thyme oil), T₄ (1% formic acid), T₅ (0.025% thyme oil + 1% formic acid) and T₆ (0.05% thyme oil+1% formic acid), having 4 replicates of 10 birds in each. The results revealed that the feed intake was significantly (p<0.05) reduced by supplementation of 1% formic acid (T₄) followed by 0.025% thyme oil + 1% formic acid (T₅) in feed of broilers. The highest body weight gain (2254.87g) and improved FCR (1.51) in broilers was observed in T₅ group which was significantly (P<0.05) better than control group. Thus, the dietary supplementation of combination of thyme oil and formic acid leads to significant improvement in the growth performance.

Source : XXXVII Indian Poultry Science Association Conference, November 2022

Smart minerals, Smart nutrition, Smart decision

THE BENEFITS



Increased stability



Improved palatability



Low solubility



Increased bioavailability



Improved digestibility



Minerals are an essential nutrient for production animals. It is very important to feed a stable and highly bioavailable source of trace mineral, in order to optimise health, wellbeing and performance, as well as minimising environmental impact. Our

IntelliBond, Optimin and IntelliOpt

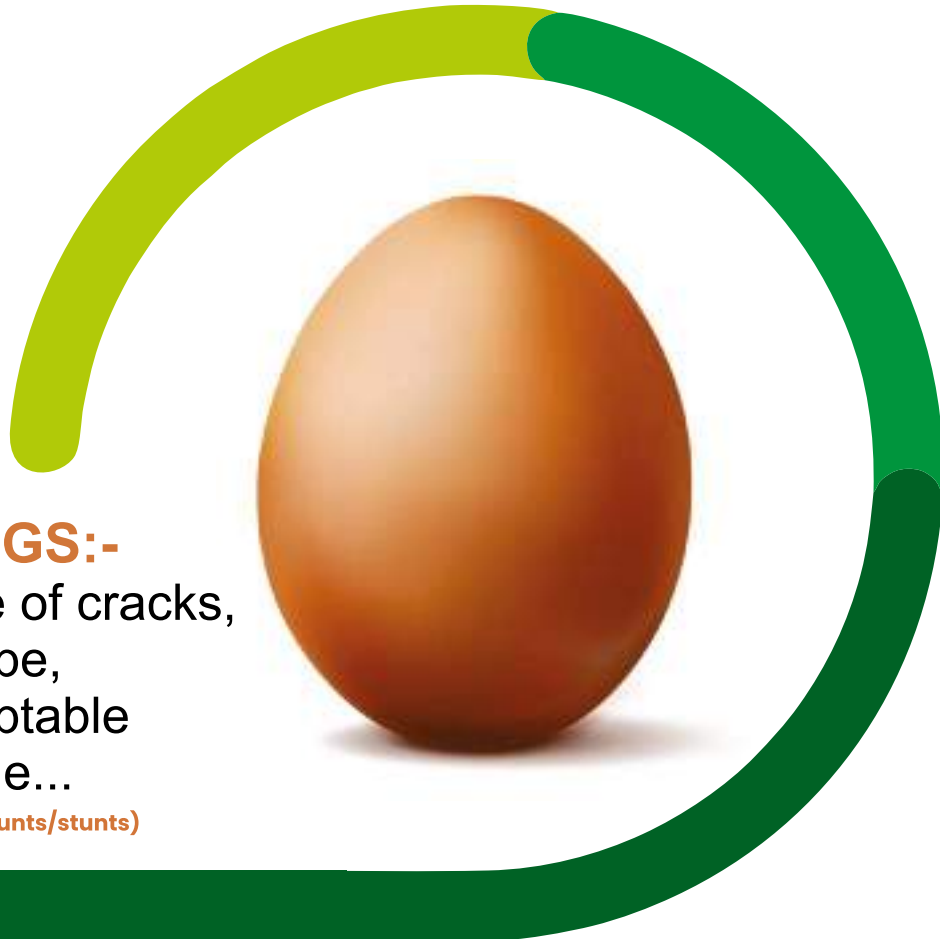
products offer a full range of Organic and Hydroxy Trace Minerals sources.



Scan the code for latest updates

Trouw Nutrition India Pvt. Ltd

Unit no. L4 04, SLN Terminus, Beside Botanical Garden,
Gachibowli, Hyderabad, Telangana – 500032 T. +91 40 2988 0258
E: customercareindia@trouwnutrition.com W: www.trouwnutrition.in



IDEAL EGGS:-

Clean, Free of cracks,
correct shape,
within acceptable
weight range...

Better Uniformity (No runts/stunts)

GANGA HATCHERIES

**We deal in only 430Y
hatching eggs**

**Our Hatching eggs are free from vertically transmissible diseases like
the Fowl Typhoid, Mycoplasmosis, Reo, Adeno, CAV etc.**

Corporate Office:

Village Bhalsi,
Near Ganga Filling Station (NAYARA)
Panipat 132113, Haryana (India)
Mob.: +91-94160-00350

E-mail: gangahatcheries@gmail.com

Web: www.gangagroup.org.in



Research Abroad

Importance of Feed Efficiency for Sustainable Intensification of Chicken Meat Production: Implications and Role for Amino Acids, Feed Enzymes and Organic Trace Minerals

M. Zampiga^a, F. Calini^b and F. Sirri^a

Department of Agricultural and Food Sciences, Alma Mater Studiorum - University of Bologna, Bologna, Italy; ^bAdvisor to the Feed & Animal Industries, Ravenna, Italy

Summary

Broiler chicken production is expected to increase significantly in the next decades to satisfy the poultry meat demand of a growing world population. In this scenario, one of the most important challenges for the poultry industry is to enhance bird productivity while remaining economically and environmentally sustainable. Feeding represents the major cost in raising of broiler chickens and has important implications for environmental impact, either directly or indirectly. Therefore, improving broiler capacity in converting ingested feed into body growth, which is generally referred to as feed efficiency (often expressed through the feed conversion ratio), is fundamental to promoting a sustainable intensification of poultry production. In this review, we highlight the importance of feed efficiency improvements in terms of overall sustainability for the broiler chicken production chain. Furthermore, the potential of feed additive-based nutritional strategies, such as the dietary administration of crystalline amino acids, proteases, phytases and organic minerals, is critically discussed in the light of their role in supporting the sustainable intensification of this crucial livestock sector.

Conclusion

The current broiler production scenario, characterized by the shortage of available natural resources and increasing public concerns regarding environmental impact and animal welfare, clearly indicates that the sustainable production intensification is the only approach that can be pursued by the modern poultry industry to fulfil the growing demand for poultry meat. In this scenario, improving FE in broiler chickens represents a primary goal because of the positive implications in terms of environmental and economic sustainability resulting from greater efficiency of diet utilisation. For this to be achieved, an accurate understanding of the nutritional requirements

of modern broiler chickens along with a rational utilisation of feed additives can improve overall productive efficiency while addressing important environmental concerns by reducing the excretion of dietary nitrogen, phosphorus and trace minerals. Additional research on the above mentioned topics is encouraged to further optimise resource utilisation, animal productivity and health, and production costs, while preserving the environment. However, it is important to consider that many other aspects are involved in poultry production sustainability. For instance, enhancing overall productivity of broiler chickens raised in alternative farming systems, such as free-range or organic which represent a growing share of market in the EU, or exposed to adverse environmental conditions (e.g. thermal stress) represent additional challenges for sustainability. Moreover, urgent measures should be taken to limit the impact of growth-related breast muscle abnormalities, which are seriously compromising the sustainability of the entire poultry meat chain and resulting in significant economic losses. Therefore, a multi-factor approach including breeding companies, researchers, as well as poultry nutritionists and producers, is fundamental to promote the sustainable intensification of poultry production and reach the noble goal of feeding future generations in an efficient and sustainable way.

Source : World's Poultry Science Journal

The Importance of Nutrition in Preventing Heat Stress in Poultry

O. Olgun, A. F. Abdulqader and A. Karabacak

Selcuk University, Selcuklu/Konya, Turkey

Summary

High production causes birds to be more sensitive to stress. Poultry are exposed to heat stress due to high ambient temperature in summer and being housed in hot regions of the world. Producers suffer economic losses as heat stress negatively affects the optimum productivity of the birds. Some adjustments in the diet can be effective in counteracting the negative effects of heat stress in poultry. Enriching the diet with vitamins E and C, and trace minerals such as selenium and zinc, which benefit antioxidant and immune systems; addition of electrolytes that maintain acid-base homeostasis; increasing dietary energy, protein, amino acid and calcium levels to prevent nutrient deficiencies are all effective feeding arrangements in reducing/eliminating the negative effects of heat stress in poultry. Consequently, it was observed that nutrient supplementation to diets of poultry exposed to heat stress can reduce the effect

of heat stress and increase bird performance, meat quality, egg production, eggshell quality and positively affects the immune and digestive systems.

Conclusion

Heat stress is an inevitable stress factor in poultry production in hot regions and in summer. Heat stress causes financial losses for the producer as it negatively affects the parameters of economic importance such as growth, egg production, and eggshell quality in poultry.

The following nutritional strategies are effective in reducing the negative effects of heat stress.

1. Increasing the levels of antioxidant vitamins and minerals in the diet
2. Addition of electrolytes to maintain osmotic and acid-base balance
3. Increasing the density of nutrients in the diet to avoid the negative effects of energy, protein, amino acid and calcium deficiency due to reduced feed intake due to stress
4. The addition of immune-supporting or antioxidant additives to the diet.

Source : *World's Poultry Science Journal*

How Can the Research on Chicken Cognition Improve Chicken Welfare: A Perspective Review

V. H. B. Ferreira³, V. Guesdon^{} and L. Calandreau^{b*}**

^aJunia, Comportement Animal Et Systemes d'Elevage, Lille Cedex, France; ^bCNRS, IFCE, INRAE, Universite De Tours, PRC, Nouzilly, France

Summary

A recent definition of animal welfare states that "the welfare of an animal" is its positive mental and physical state related to the fulfilment of its physiological and behavioural needs in addition to its expectations. This state can vary depending on the animal's perception of a given situation. This definition confirms the importance of taking the individual animal perspective (i.e. its cognition) into consideration, in order to properly assess its welfare. Cognitive abilities of domestic chickens have been extensively studied in recent years, but few of these studies focussed on the relationship between chicken cognition and welfare issues commonly found in chicken production systems. Considering the chickens' cognitive abilities offers new and different perspectives on the welfare problems faced by chicken production. Combined with applied research, cognitive studies

can generate impactful and science- based strategies to solve these problems better. In this short non- systematic review, we focus on cognitive research aimed at understanding three widespread welfare issues in poultry production: uneven range use in free-range broiler chickens and laying hens, feather pecking in laying hens, and the unfulfilled behavioural and physiological needs of broiler breeders. Knowledge of chicken cognitive abilities is critical to ameliorate chickens' rearing conditions and develop systems and practices that are more respectful of animal welfare.

Conclusion

Cognitive studies are a powerful and useful way to assess animals' inner world: how they perceive, learn, memorise, interact, and react to their physical and social environment. Here, we gave multiple examples on how these studies can offer new and different perspectives on many welfare problems faced in chicken production, such as the uneven range use in free-range broiler chickens and laying hens, feather pecking and cannibalism in laying hens, and the unfulfilled behavioural and physiological needs in broiler breeders. At first sight, studies in cognition to better understand behavioural problems in domestic birds do not necessarily seem relevant. However, even if much remains to be done, we see that cognitive studies bring new and original approaches to solve uneven range use and feather pecking. Cognitive studies may also help to better understand and more effectively tackle the welfare problems that may be encountered by broiler breeders. Combined with applied research, cognitive studies can generate impactful and science- based strategies to solve these problems. Although some practical applications of these studies are already available, they are still underestimated in applied animal sciences. Beyond the need for further studies relating chicken cognition to chicken welfare, it is necessary to raise awareness within the scientific community of these studies' importance as one essential step to improve chicken welfare. It is expected that the general public and legislative demand will more and more rely on this type of information to decide the future of chicken production.

Source : *World's Poultry Science Journal*



Eimeriavax[®] 4m

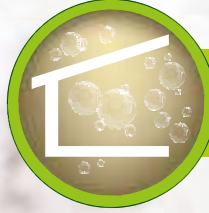
Live attenuated coccidiosis vaccine for layers & breeders



Recycling of oocysts is necessary



Advisable for optimal sporulation



Thoroughly cleaned



Do not use any products with anti-coccidial activity

Single dose
Eye-drop application

Highly immunogenic:
Solid immunity induced against the major species of *Eimeria*

Simple storage
at (2 - 8°C)
Do not freeze

Live attenuated
(precocious) coccidiosis species

Provides **life-long protection** in breeders & layers

Safe in chickens from day-old age

Ready to use

No anticoccidial medications are required.

The Incredible Egg and its Egg-Citing Findings : A Comprehensive Look at Its Effects on Young and Healthy People



Dr. Priyanka Kamble Manager-Marketing Services Huvepharma SEA
O.P. Singh Managing Director Huvepharma SEA

It is reassuring to see that the industry is making efforts to dispel the long-standing misconception that eggs should be avoided. However, the industry should now focus on intensifying its promotion of eggs and educating consumers about their health benefits. By raising awareness about the myths surrounding eggs, we can increase consumer awareness and encourage greater consumption of this nutritious food.

In today's health-conscious world, there has been a long-standing debate surrounding the effects of egg intake on our overall wellbeing. For years, eggs have been subject to negative press, with concerns over cholesterol levels and cardiovascular health. However, research is proving time and time again that eggs make up a healthy and wholesome diet for a young and healthy population.

Unveiling the Truth : The Egg's Redemption

In 1968, a ground breaking announcement from the American Heart Association sent shockwaves through the nation. Eggs once a beloved breakfast staple, were suddenly demonized as a potential threat to our health. It was believed that their consumption could lead to an increase in low-density lipoprotein (LDL) cholesterol, commonly referred to as "bad cholesterol". The public was advised to avoid eggs to a cost.

Decades passed, and this cautionary message lingered in the minds of millions. Eggs, once a symbol of morning nourishment and culinary delight, became shunned and whispered about with apprehension. But as time went on, scientists began to question this prevailing belief and sought to delve deeper into the true impact of eggs on our health.

The findings were nothing short of revolutionary.

Choline Intake and Heart Health : Challenging the TMAO Connection

In recent years, there has been



growing concern about the potential link between choline intake and trimethylene N-oxide (TMAO), a metabolite associated with heart disease. However, a ground breaking study conducted by renowned researcher Dr. Catherine J Andersen, Associate Professor of Nutritional Sciences at UConn, challenges this widely accepted notion. Contrary to popular belief, Andersen's study reveals a surprising finding – an

increase in choline intake did not lead to any significant changes in TMAO levels among the participants. This unexpected outcome has sparked a debate within the scientific community and offers a new perspective on the relationship between choline and heart health.

Dr. Andersen herself expressed surprise at these findings but also highlighted their significance. She explained that this outcome could be considered the “best-case scenario”, as it challenges the conventional belief that higher choline consumption directly leads to elevated TMAO levels, which can potentially contribute to heart disease. In fact, eggs emerged as a nutritional powerhouse, offering essential nutrients such as high-quality proteins, vitamins (including vitamin D), minerals like iron and zinc, and beneficial antioxidants like lutein and zeaxanthin.



Unlocking the Power of Whole Eggs: A Nutritional Breakthrough

In a world where dietary recommendations seem to constantly change, one food item that has often been at the centre of debate is a humble egg. Eggs have long been regarded as versatile and nutritious food, but concerns surrounding their cholesterol content have led many to favour egg whites over whole eggs. However, recent research has shed new light on the benefits of consuming whole eggs, revealing their potential positive impact on markers associated with diabetes risk and overall nutrient density.

The Journey to Discovery

In a ground breaking study conducted by Catherine J. Andersen, the incredible benefits of consuming whole eggs have

been unveiled. This research not only challenges the traditional notion of avoiding egg yolks but also sheds light on the remarkable nutrient density found in this humble breakfast staple. The findings reveal a significant positive impact on haematocrit levels, indicating improved red blood cell density and overall health.

The Nutritional Powerhouse: Embracing Vital Nutrients Found in whole Eggs for Optimal Health

- **Protein Powerhouse** : Whole eggs provide a complete source of high-quality protein, containing all nine essential amino acids required for optimal bodily function
- **Choline Boost** : Choline is an essential nutrient vital for brain health, foetal development, and liver function. Whole eggs are an excellent source of this vital nutrient
- **Vitamin and Mineral Treasure** : Whole eggs are rich in vitamins such as A, D, E and B-complex (including B₁₂), as well as minerals like iron, selenium & zinc

A Paradigm Shift in Nutritional Recommendations

The study’s findings, challenge conventional dietary advice that suggests limiting egg yolk consumption due to its cholesterol content. It encourages a more holistic approach to nutrition, emphasizing the importance of incorporating whole eggs into our diets to reap their full range of health benefits.

The Impact on Diabetes Risk

One notable discovery from this study was that consuming whole eggs had a less negative impact on markers associated with diabetes risk compared to consuming egg whites alone. This suggests that the unique combination of nutrients found in whole eggs may offer protective benefits against developing diabetes or managing its symptoms.

Promoting Brain Health

Eggs contain crucial nutrients that support brain health, including choline and omega-3 fatty acids. Choline is

essential for brain development, memory function, and cognitive performance. Omega-3 fatty acids, particularly DHA, contribute to brain health throughout all stages of life. Including eggs in our diet can provide these vital nutrients necessary for maintaining optimal brain function.

Weight Management and Satiety

For those aiming to maintain or achieve a healthy weight, eggs can be a valuable addition to their diet. Research suggests that incorporating eggs into meals can promote feelings of fullness and reduce calorie intake throughout the day.

The high protein content in eggs helps regulate appetite hormones while providing sustained energy levels, making it easier to resist unhealthy snacking and overeating.

As research continues to unveil the true potential of eggs as a nutritious food source, it becomes clear that they deserve a place in a young, healthy population’s diet. Contrary to previous beliefs, eggs offer a myriad of benefits ranging from cholesterol management to brain health and weight control. It is essential to dispel the misconceptions surrounding egg consumption and embrace these nutritional powerhouses as part of a



balanced and wholesome diet. So, the next time you crack open an eggshell, remember that you are not just indulging in a delicious meal, you are partaking in a humble food item that has risen above adversity and proven its worth. Embrace this symbol of redemption, knowing that science continues to uncover the truths behind our most cherished foods.



IF **GUT** HEALTH
IS YOUR
CONCERN!

ADD

3 MORE
FEATHERS
TO YOUR BIRD



INTEGRITY



PROTECTION



BALANCE

CosBacTM
Total Gut Health Solution

Multi-Species | Prebiotic Mix

Moo, Milk and the Mundari: the Mystique of the Cow

SHRIDHAR speaks



Tarun Shridhar
Former Secretary,
Ministry of
Fisheries, Animal
Husbandry and
Dairying,
Govt. of India

Holy Cow! The oft used phrase loses its exclamatory sheen when translated into Hindi. What does the exclamation mean then? It is an expression of surprise, nay bewilderment. The origin of the slang is said to be the United States of America. Why should a beef eating society express reverence to the cow prefixing it with the adjective holy?

Cows are truly one of the most amazing creatures. Despite the size and bulk they carry, they can run at a speed of 40 kilometres an hour while retaining their ability of a more than 300 degree visual field. Curiously, they can achieve this athletic excellence with only four hours of sleep, and chewing food for eight hours moving their jaws 40,000 times. If this was not enough, these graceful animals are extremely social and often travel in herds. Besides these and many more incredible abilities, cows have profound symbolism attached to them.

“Money can’t buy happiness, but it can buy cows. And that is pretty much the same thing,” a quote I can’t recollect who to attribute to, but it surely establishes the exalted status cow enjoys amongst the livestock fraternity, beyond mere economic interests. Hinduism may have

taken it to new heights, but the cow evokes a unique sentimental attachment, not shared by many other livestock species, all across the world.

Recognised as a symbol of prosperity, strength and motherly love, the cow is considered sacred in Hinduism; a divine creature reflecting fertility and bountifulness. The deep religious and spiritual affiliation of Hinduism with the cow is recognised the world over. Milk evokes similar devotional sentiments in diverse societies and cultures.

“Land flowing with milk and honey” is how symbolically a place of prosperity and abundance has been traditionally described. The Bible uses this expression over and over again as a hyperbole to a Garden of Eden like paradise containing all the riches of the universe. Likewise, milk is considered a life sustaining drink in Hinduism having purifying qualities. Thus, it is no surprise that milk is symbolically used for bathing too in quite a few rituals. Milk is a powerful symbol within most cultural traditions. It is universally acknowledged as the fluid of eternal life, fertility and abundance. In some religious and cultural traditions, it is known as the food of the gods and the first human diet. The reverence and worship of the cows by the Hindus is motivated by the fact that they provide life sustaining milk, hence for them it symbolises the mother, the creator. Likewise, some tribes in the continent of Africa nurture a strong belief that it was a tiny drop of milk that led to creation of the universe. And then milk is believed to be a provider not only of robust physical health and high energy but also of intelligence and wisdom. No doubt, therefore, that the power of the cow is

incredible, encompassing all facets of life from basic food to a strong influence on religious, social and cultural dimensions; besides the immense potential of economic transformation.

There is also an extremist fringe which defies science and attributes, with great passion, surreal virtues, other than milk, to each and every attribute of the cow; the dung and urine being atop are not considered mere body waste and refuse but as elixirs. Are such extraordinary convictions our exclusive prerogative?

Don’t be surprised to learn that there is another community whose passion, devotion and a die-hard commitment to the cow far surpasses our home grown champions of the desi cow. The love and worship of the cow that the Mundari tribe of South Sudan in the African continent display is unparalleled. Probably, our most devout among the cow devotees would feel embarrassed when confronted with the devotion of an ordinary Mundari tribe person.

The Mundari tribe is a small ethnic group in the Republic of South Sudan, numbering between 70,000 and 100,000 people. The river Nile and its surrounding valley is the source that nourishes them and their livestock. The Mundari follow a mixture of Christian and animistic beliefs, with symbols playing an important role. They are agro-pastoralists with an economy centred on agriculture and herding livestock. It is said, quite rightly too, that it would be impossible to find a more dedicated group of herdsmen than this tribe who lives on the banks of the Nile north of Juba, the capital of South Sudan. Their entire lifestyle revolves around caring for their prized

livestock, the Ankole-Watusi, a breed of horned cattle known both as the “kings of the cattle” and “the cattle of kings.” Could there be a greater glorification of an animal, that too the one which has been domesticated. Interestingly, our contribution to the royal status this cattle commands, is quite significant.

Ankole-Watusi cattle is a part of the Sanga family of the African cattle breeds which originated over 2,000 years ago as a crossbred of Zebu longhorns from India and the Egyptian longhorn cattle. Sanga cattle spread throughout Africa leading to the development of several different breeds. Scientific studies suggest that the big horns of the Ankole-Watusi are an evolution for adaptation to hot climates, facilitating the dispersal of excess body heat. The resilience this breed of cattle demonstrates is a tribute to the hardiness of one of its ancestors too, the Zebu of India.

Look around the globe and you'd find that many of the prominent amongst the cattle breeds, the Brahman, Girlando, Ankola-Watusi etc. all have in their genetic composition the Indian Zebu.

In the Mundari culture, like ours and many other tribes, cows play an important role in birth, marriage and death, and a host of religious rituals. They are symbols not only of wealth and prosperity but of power too. Every life event includes a reference to cows, the lives of which are, at times, considered more important than those of humans. A person's position in society is established through the ownership of cattle, interestingly the size and shape of the horns are the most important and prized features. Traditionally, Ankole-Watusi cows, quite like our desi, are considered sacred, with an owner's wealth counted in live animals. Unfortunately, and akin to our situation, cattle are also a common source of conflict. Clashes seldom arise over common resources such as land but often over cows, and their ownership and the attached sentimentalism.

The Mundari cows are, undoubtedly, among the world's most pampered animals, equalling, if not excelling the love of pet owners. In fact, our love for

the cow could at best be individuals or small groups displaying a modicum of commitment, here is a whole community tending to them like their own children. The Mundari massage these cows twice a day; and with the fine talcum powder derived from the ash from the burnt dung. This talcum powder is rubbed into the cattle's skin and also used as its bedding. Swatting of flies from the herd's most prestigious cattle is done through ornamental tassels.

Tariq Zaidi, a UK based renowned photographer of culture and communities, describes his encounter with the

**The mooing cow,
for the Mundari,
is wealth, social
security, dowry,
pension, an ATM
etc.; above all a
bond, social and
spiritual. No wonder,
like the Hindus they
absolutely adore
and worship the
cows as the most
fascinating, gentle
and beautiful of
animals**

Mundari as “almost every man I met wanted me to take a picture of them with their favourite cow.” Their wives and children, on the other hand, were given short shrift. The Mundari sleep among their cattle, “literally two feet away from their favourites” says Zaidi, and guard them at the point of a gun. It is considered perfectly reasonable for the tribe to go to any lengths to protect its cattle.

Ashes are used as a natural antiseptic to protect the skin of not only the cows but the people too. Besides massaging the cattle with the ash talcum, the Mundari also use it as a toothpaste for themselves. The cattle urine is used to wash hands and the face; curiously to clean the teeth and bleach the hair too. The Mundari also drink it in the belief that cow urine infuses purity; an advice given to us too at times. They also combine urine with ashes to polish the magnificent horns of the cattle.

The Mundari, tall and muscular, may “look like bodybuilders,” says Zaidi, “but their diet is pretty much milk and yogurt. That's it.” Other bodily fluids have more unlikely uses. Mundari men will squat under streams of cow urine, both an antiseptic, Zaidi suggests, and as an aesthetic choice – the ammonia in the urine colour the Mundari's hair orange.

Before the onset of the raging civil war in Sudan, each Ankole-Watusi cattle is said to have been worth nearly \$500. This was the reference value used to calculate the bride price paid to a woman's family. Following the end of the war, the number of middle-aged men in search of wives has dramatically increased. This had a direct impact as it doubled the bride price from an average of 20 cows per bride to 40. This inflation has made cattle even more precious and has led to an increased frequency of cattle raids, which could be lethal at times.

Mundari live in cattle camps; everyone is obliged to play a role and discharge a responsibility. The men lead the cows into the fields during the day and regroup them in the camp before sunset, while the women clean and prepare food for everyone; how very traditional. The children clean the ground of the camp every morning by collecting the dung and burning it at sunset. The smoke drives away mosquitoes and also creates a unique atmosphere.

The mooing cow, for the Mundari, is wealth, social security, dowry, pension, an ATM etc.; above all a bond, social and spiritual. No wonder, like the Hindus they absolutely adore and worship the cows as the most fascinating, gentle and beautiful of animals.



SAVE THE DATE
DATE
 VICTAMASIA.COM



MARCH 12 - 14, 2024

BITEC EXHIBITION CENTER, BANGKOK, THAILAND



VICTAM
Asia **2024**

IN CO-LOCATION WITH  

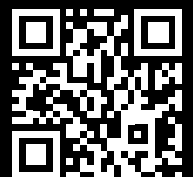
**JOIN ASIA'S LARGEST
 DEDICATED EVENT FOR
 THE ANIMAL FEED
 PROCESSING INDUSTRIES**

- ✓ Growing market opportunities in the booming Asian region
- ✓ Over 9.000 international visitors
- ✓ See what is trending in your industry
- ✓ Meet delegates from various trade missions
- ✓ Meet (potential) customers
- ✓ Specific conferences with key topics in line with your interests
- ✓ The platform to launch your innovation
- ✓ Access to the industry exhibition

Supported by:



This event is held at BITEC in halls 9 and 10
 Bangkok International Trade & Exhibition Center
See you at VICTAM ASIA!



PROTOXY FORTE

New paradigm to protein nutrition



Protease is a game-changing enzyme that improves the performance and profitability of flock. Rossari has the ground breaking **Protoxy Forte** - a secret weapon for exceptional success in the poultry industry.

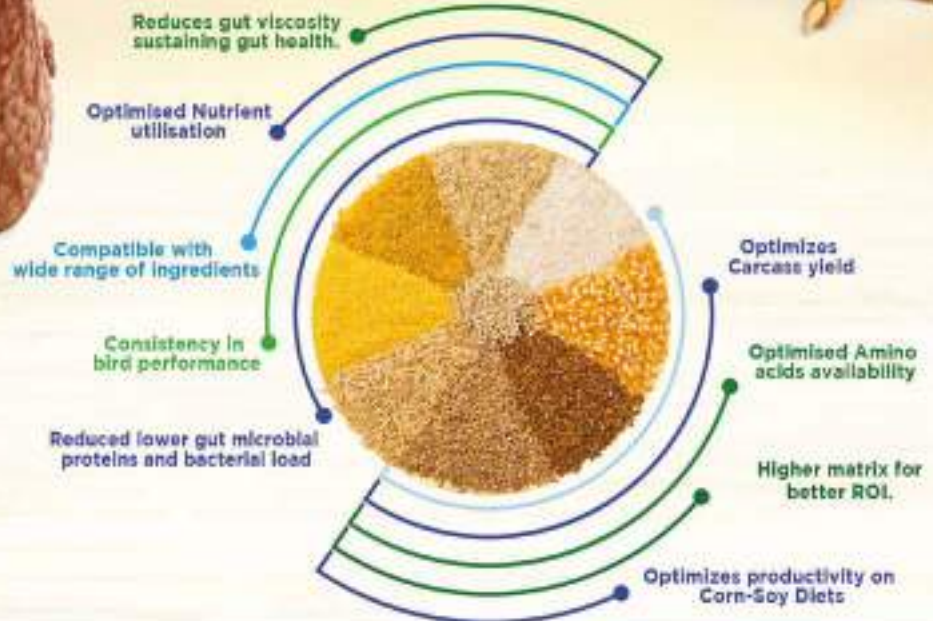
The Multi-Protease formulation of Acidic, alkaline, and Neutral Protease Enzymes has been carefully selected and blended to improve digestion and nutritional absorption in poultry birds.

A Thermostable & microgranular Serine Protease extracted from *Bacillus licheniformis* to unleash the full protein potential of feed and ensure that birds get the most out of every feed.

Witness the astonishing outcomes of greater feed conversion rates, better profitability, and a healthier, productive flock.

Your poultry farm's success story begins with Protoxy Forte!

'A Multi-Purpose Multi-Protease'



ROSSARI BIOTECH LIMITED

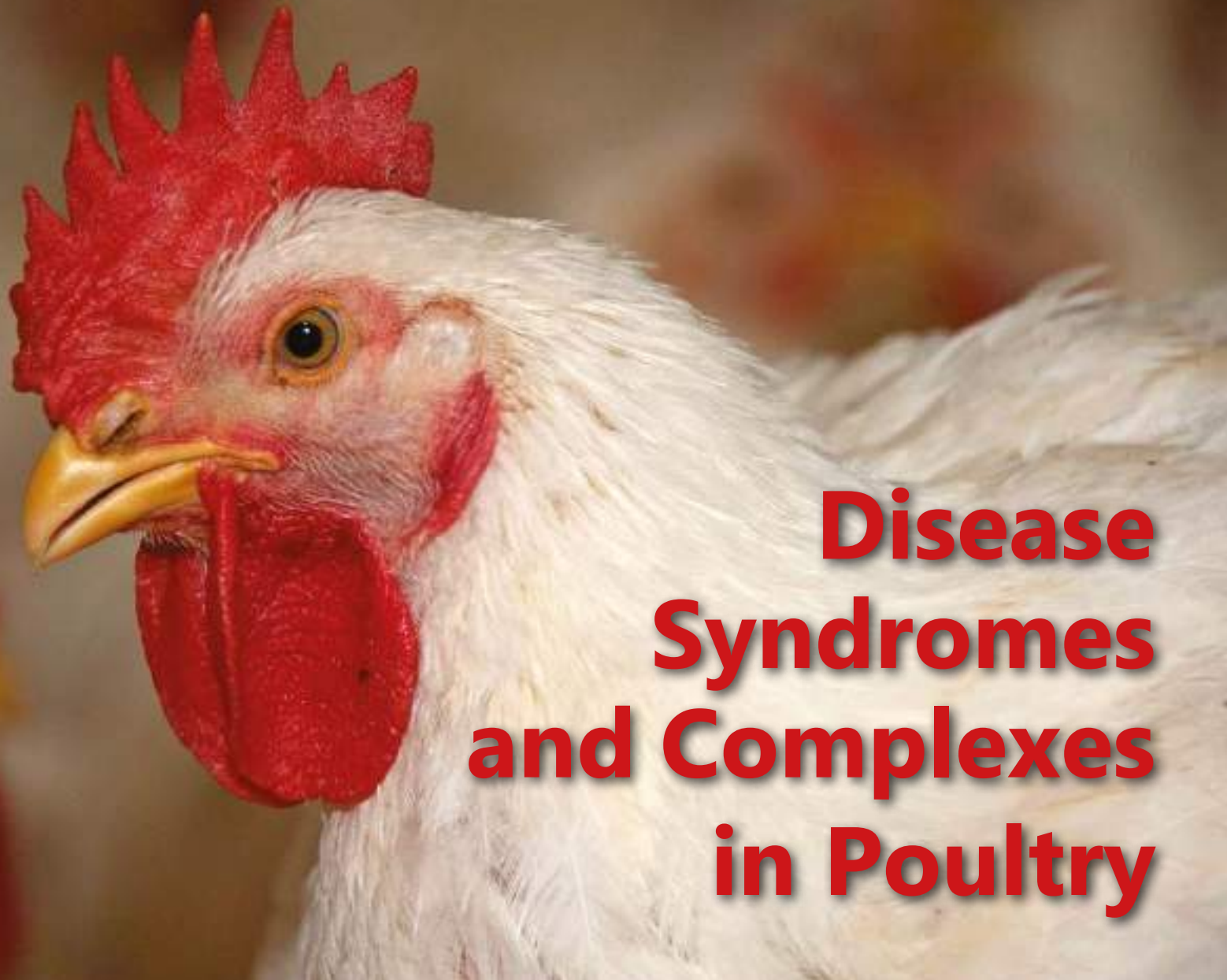
(An ISO 9001:2015 & 14001:2015 Certified Company)
201 A - B, 2nd Floor, Akurati Corporate Park, L.B.S Marg, Next to GE Gardens,
Kandarmang (W) Mumbai - 400078, India.

+91 22 6123 3800

info@rossari.com

www.rossari.com





Disease Syndromes and Complexes in Poultry



Prof. Dr. R. N. Sreenivas Gowda
Former and Founder VC, KVAFSU, Bidar,
Former Director, IAH & VB, Bangalore, Former
Professor and University Head, Dept. of
Pathology, Veterinary College, UAS, Bangalore

What is a Syndrome?

A syndrome (from the Greek word meaning 'run together') may produce a number of symptoms without an identifiable cause. A syndrome refers to a group of symptoms, while a disease refers

to an established condition. A syndrome is a collection of recognizable traits or abnormalities that tend to occur together and are associated with a specific disease. A syndrome is really a collection of traits or distinctive features that run together. Similarly, disorder is defined as a disruption of the disease to the normal or regular functions in the body or a part of the body.

The pathological situations become complicated due to overlapping clinical signs and or lesions and these are often referred to as "syndromes". Some examples of syndromes are shown in Table 1.

Table1: Syndromes and their Causative Agents

Syndromes	Cause
Lazy Chick Syndrome (LCS)	Use of dark or blue curtains in chick rearing
Erratic Oviposition and Defective Egg Syndrome (EODES)	Over feeding of broiler breeders and erratic oviposition(double yolk synthesis)
Haemorrhagic Syndrome	Prolonged sulfa drug treatment, Vit. K. deficiency, trichothecene toxicity
Air Sac Syndrome	E.coli, Mycoplasma-(MS & MG)
Toxic Fat Syndrome	Rancid fats. Mycotoxins in the feed,
Fatty Liver Syndrome (FLS)	High levels of fatty oils in feed, inadequate supply of choline,Vit.B ₁₂ , Mycotoxins
Fatty Liver Kidney Syndrome (FLKS)	Biotin deficiency, stress
Kidney Breakdown Syndrome (KBS)	Vit. A deficiency, excess Ca in the diet, high potassium levels in the diet, mycotoxins. Avian rotavirus and infectious bronchitis virus.
Swollen Head Syndrome (SHS)	Infectious Coryza, Avian Pneumovirus (APV) and the secondary -usually E. coli; mixed coronavirus and Escherichia coli infection.
Ascites Syndrome	Low oxygen tension, high altitude.
Malabsorption Syndrome	Enterovirus-Astrovirus, Avian Nephritis Virus (ANV), Chicken Parvovirus, Avian Reovirus, Avian rotavirus and Infectious Bronchitis virus.
Runting and Stunting Syndrome(RSS)	Enteroviruses, enterovirus-like particles, reoviruses, rotavirus etc. Poor nutrition-mycotoxins and management may contribute to the problem.
Hydro Pericardium Syndrome (HPS)	Adenovirus serotype 4 (FAdV-4) of FAdV-C
Egg Drop Syndrome76 (EDS76)	Adenovirus-A
Sudden Death Syndrome	Metabolic disease, high carbohydrate diets
Oily Bird Syndrome (OBS)	Elevated scalding temperature, fatty skin
Spiking Mortality Syndrome(SMS)	Fast growth, irregular lighting, avian adenovirus
Poultry Enteritis Mortality Syndrome (PEMS)	Several enteric viruses



What is a Complex?

A complex is defined as a condition with which several known and unknown factors operate serially, sequentially and successfully to precipitate the pathogen (germ or a parasite) viably in the vicinity to cause greater havoc in the flock at any stage of the bird’s life. It is difficult to understand the processes, but it requires a careful and systematic analysis and sound knowledge of the background of “Management, Nutrition and Health programmes” as “holistic approach”. These are multifactorial diseases and not confined to any specific pattern of single causative agent and are likely to be caused when multiple causes come together along with the interaction of environmental factors. In other words, “Conditions caused by many contributing factors are called complex or multifactorial disorders”.

The complex of any nature follows principally with three factors:

1. A causative factor/s
2. A contributory factor/s
3. A complicating influence

Whereas, it can be to a great extent said that the causative factor is attributed to a specific pathogen either acquired from parents vertically or otherwise contagious in nature that spreads through direct or indirect mode of transmission and the contributory and complicating influences arise from the lacunae in managerial or nutritional practices.

The following complex diseases are causing devastating effects in poultry health:

1. Respiratory Diseases Complex (RDC)
2. Leucosis/ Sarcoma /Marek’s Disease Complex
3. Adeno-disease Complex
4. Kidney Breakdown Disease Complex (KBDC)
5. Malabsorption and Enteric Disease Complex
6. Ascites Disease Complex
7. Production Failure Complexes
8. Immunity Breakdown Complexes (IBC)
9. Iatrogenic or Manmade Complexes (IC)



Respiratory Diseases Complex (RDC)

Table 2: Agents Causing Respiratory Disease

Agents Causing Respiratory disease	Disease Proper
Bacterial	Haemophilus Coryza, Mycoplasma, Pasteurellosis, Salmonella, E.coli
Viral	Infectious Bronchitis (IB), Infectious Laryngotracheitis (ILT), ND/RD, Tracheal Pox, Adeno-virus, Avian pneumovirus
Fungal	Aspergillosis, Candidiasis,
Parasitic	Syngamus trachea, Immature round worms, Tapeworms,
Nutritional	Poor protein , deficiency of vitamin A, C
Managemental	High density flock, High or low humidity, High Ammonia, Dust

Table 3: Primary Respiratory Disease and Complicatory Factors of RDC

Primary Disease	Contributory Factors	Complicating influence
RD/ND	Frequent handling Dust, High density	AI, IB, ND, Adeno Virus
IB	Dusty environment	ND, AI, Mycoplasma, E.coli
Mycoplasma CRD*/CCRD**	High density of flocks, Increased ammonia,	E. coli, IB, ND, I LT
Colisepticaemia	Ventilation errors, water contamination	Mycoplasma, IB, ND

*CRD and sinusitis in poultry are caused by pure MG infections while the air sac syndrome is caused by an infection of MG in combination with E. coli. These conditions are triggered by acute respiratory infections such as Newcastle Disease or Infectious Bronchitis.

**CCRD and coccidiosis are frequent chicken diseases that can co-infect, resulting in increased morbidity and mortality in flocks. Early illness detection, sound farm management, and biosecurity all play a critical role in limiting disease transmission on the farm.

Avian Leukosis, Sarcoma and Marek's Disease Complex

All these diseases are complex in nature and produce very similar cancers and occur with very similar clinical symptoms and lesions, therefore, it is difficult to diagnose by gross lesions. Although the Avian Leukosis, Sarcoma and Reticulendotheliosis (RE) caused by DNA virus belonging to family retroviridae, the sarcomas and RE behave differently. The Marek' Disease is also a cancer producing same disease but, caused by DNA herpes virus.



Adeno-disease Complex

The emerging trend of adenoviruses and adenovirus-associated diseases has been increasing globally from year to year. There exist more than 8 serotypes of adenovirus causing various diseases in poultry. Adenovirus can cause latent infection or several diseases that are the reason of economic losses in poultry industry. Mainly, type FAdV-4 is responsible for hydro pericardium hepatitis syndrome (HPS), type FAdV-1 for gizzard erosion and ulceration (GEU), and types FAdV-2, 8a, 8b, and 11 seem to be responsible for inclusion body hepatitis (IBH). Inclusion body hepatitis (IBH) mainly existed in broiler chickens from certain breeder flocks and is associated with many different serotypes. Adenovirus infection may infect other organs, causing splenitis, inclusion body hepatitis, bronchitis, pulmonary congestion ventriculitis, pancreatitis, or oedema, depending on the species of bird infected.

Egg drop syndrome (EDS) or duck adenovirus -1 of genus adenoviridae family is responsible for the syndrome in laying hens. Outbreaks of EDS in laying birds will cause significant loss of saleable eggs, and the disease is controlled by vaccination.

Other adenovirus disease in poultry is Haemorrhagic enteritis (HE), an acute viral disease in turkeys characterised by depression, bloody droppings, and death. Marble spleen disease (MSD) is related to pheasants caused by adenovirus.

Kidney Breakdown Disease Complex (KBDC).

Renal diseases are common in avian species. About 30% of all disease conditions are found to be directly or indirectly related to renal disorders. The main causes of kidney disorders in chickens are nutritional deficiencies, managemental problems, toxins and infectious agents.

Gout is a sign and not a disease but is a metabolic disorder

resulting in hyperuricemia and the deposition of uric acid or urates in tissues. In broilers, it occurs in two forms as visceral and articular form, which can further damage the kidneys or other body systems. It is usually found in the first 3 weeks of life rather than later on.

The nutritional or metabolic causes of gout include excessive dietary calcium, high protein diet, excess salt, low phosphorus, imbalance between Ca-P levels, adulteration of feed with urea, deficiencies of vitamin A and D, high altitude farming, water deprivation followed by over dosages of certain drugs like sulphadiazine and the antibiotic aminoglycosides often causes kidney damage. Managemental stress like, high brooding temperature and higher level of ammonia concentration in the shed can also cause high mortality due to gout, mycotoxins and phytotoxins, poisoning with phenolic disinfectants or insecticides, and infectious causes viz. bacteria (*Salmonella*, *E.coli*) and viruses (infectious bronchitis virus (IBV), avian nephritis virus (ANV) and chicken astro virus).

Malabsorption and Enteric Disease Complex

The gastrointestinal (GI) tract has the most extensive exposed surface in the body and is constantly exposed to a wide variety of potentially harmful substances. A wide range of factors associated with diet and infectious disease agents can negatively affect the delicate balance among the components of the chicken gut and, as a result, affect health status and production performance of birds.

Runting and stunting syndrome (RSS) is a condition in which a number of the birds in a flock are considerably smaller owing to delayed growth and RSS chickens are easily observed in sex-linked dwarf (SLD) chickens.

Malabsorption syndrome is a transmissible disease characterized by stunted growth and a lack of skin pigmentation in growing chickens, most commonly broiler breeds. Turkeys may also be affected; in these birds, it resembles poult enteritis mortality syndrome. Many viral infections have been associated with enteric disease conditions. These include rotaviruses, coronaviruses, enteroviruses, adenoviruses, astroviruses and reoviruses.

Enteroviruses, parvoviruses, astroviruses, caliciviruses, arenaviruses, toga viruses, reoviruses, and rotaviruses have been implicated. Enteroviruses, reoviruses, and mycotoxins have been considered the most likely etiologic factors, although recent reports suggest an important role for astroviruses and unusual parvoviruses. A problem hampering the understanding of the etiology is the inability to isolate these viruses. Because the disease is seen in very young chicks, it is likely the viruses are vertically transmitted, although fecal/oral spread occurs after hatching. The involvement of feed borne mycotoxins is not well understood. Poor management may contribute to the problem.

Ascites Disease Complex

The term, "ascites" actually refers to the accumulation of non-inflammatory fluid in abdominal cavity; so-called "water belly". The disease is more scientifically known as pulmonary hypertension syndrome. The lack of oxygen causes a marked

increase in the number of red blood cells that makes the blood more viscid and difficult to pump through the lung, causing pulmonary hypertension (PH).

Ascites is most commonly diagnosed at 4 to 5 weeks of age. There may be clots of yellow material in the fluid. Ascites caused by right ventricular failure (RVF) has been an important cause of illness and death in meat-type (broiler) chickens worldwide. Ascites syndrome in poultry results from pulmonary hypertension and secondary right heart failure. Rapidly growing broilers, those raised at altitude > 3,000 feet, or chicks exposed to cold as neonates are most susceptible.

It is a multi-factorial disease. Interactions between diet, other environmental and genetic factors play an important role. The relatively high heritability estimates for ascites-related traits and the significance of maternal genetic effects for most of the traits indicate that direct and maternal genetic effects play an important role in development of the ascites syndrome. An imbalance between oxygen supply and the oxygen required to sustain rapid growth rates and high food efficiencies causes ascites in broiler chickens. Because of the relationship to oxygen demand, ascites is affected and/or precipitated by factors such as growth rate, altitude (hypoxia) and environmental temperature. As the high metabolic rate (fast growth) is a major factor contributing to the susceptibility of broilers to ascites, early-age feed or nutrient restriction (qualitative or quantitative) or light restriction in order to slow down the growth rate seem practically viable methods, since final body weight is not compromised. Manipulation of the diet composition and/or feed allocation system can have a major effect on the incidence of ascites. Optimization of the house temperature and ventilation in cold weather seem helpful practices to decrease ascites incidence. Ascites can also occur as a result of liver damage caused by aflatoxin or toxins from plants such as *Crotalaria* (also known as rattlebox or rattle weed) or by *Clostridium perfringens* infection. Amyloidosis is the most common cause of ascites in meat-type ducks and breeders.



Production Failure Complexes

Any disease of poultry can adversely affect egg production and quality either directly, by having effects on the reproductive system, or indirectly, by affecting the health of the bird. Respiratory infections which result in air sacculitis may, in turn, infect the ovary and oviduct. In addition, some diseases infect the oviduct and ovary by ascending infection.

Bacteria (Salmonella, Mycoplasma, Escherichia coli, Infectious Coryza, Ornithobacterium, Gallibacterium, Spirochaetosis), Mycoplasmal infections Fowl cholera, and Infectious Coryza. Viruses (infectious bronchitis virus, egg drop syndrome, swollen head syndrome, avian encephalomyelitis, influenza, Newcastle disease, laryngotracheitis), syndromes (fatty liver haemorrhagic syndrome, cage layer osteoporosis) and toxic agents.

Management, nutrition and disease may, in combination, result in a reduction in egg internal quality and/or egg shell quality.

Immunity Breakdown Complexes (IBC)

The immune system in chickens can be divided into primary immune organs and lymphoid tissue. The primary immune structures are the thymus, where T lymphocytes are produced and mature; the bursa of Fabricius, where B lymphocytes mature; and the bone marrow, where blood cell precursors are produced.

Immunosuppression, originally defined as “a state of temporary or permanent dysfunction of the immune response resulting from damage to the immune system and leading to increased susceptibility to disease”

Viruses, including Infectious Bursal Disease Virus (IBDV), Chicken Infectious Anemia Virus (CIAV), Marek’s Disease Virus (MDV) and Avian Leukosis Virus (ALV), are the major immunosuppressive inducers. They can cause apoptosis and/or necrosis of lymphoid cells and induce the malfunction of immune response regulation

Major histocompatibility complex (MHC)-encoded class I and class II molecules are crucial for mounting specific and optimal adaptive immune responses, particularly in developing vaccinal immunity, and are typically highly polymorphic and polygenic,

Coccidian species are a subclass of obligate intracellular protozoan parasites belonging to the apicomplexan class, among which two groups, Cryptosporidium baileyi and Eimeria species, have been linked to immuno-suppression,

Subclinical immunosuppression in chickens is an important but often underestimated factor in the subsequent development of clinical disease. Immunosuppression can be caused by pathogens such as chicken infectious anemia virus, infectious bursal disease virus, reovirus, and some retroviruses (e.g., reticuloendotheliosis virus). Mycotoxins and stress, often caused by poor management practices, can also cause immunosuppression.

Table 4: Immunity Breakdown complex

Causative factor	Complicating factor	Complicating influence
IBDV	CIAV, Mycotoxin stress	Nutritional and managerial factors
CIAV	IBD, Genetic susceptibility	Mycotoxins
MDV	Genetic susceptibility	Poor management
ALV	Genetic susceptibility	Environmental stress>Ammonia,
Avian Influenza	IB,ND	Farm management
IB, pneumovirus	IBD,CIAV	Farm management, biosecurity lapses
ILT	Biosecurity lapses	Farm management
Coccidiosis	E.coli	Managerial errors

Sudden Death Syndrome (SDS)

The cause of SDS is not clear, but it is believed to be a metabolic disease related to high carbohydrate intake. SDS can occur as early as three days of age and may continue until birds reach market weight. Peak mortality generally occurs when birds are between 12 and 28 days of age.

Spiking Mortality Syndrome

This is a condition characterised by a sudden increase in mortality in young, typically 7-14-day-old, rapidly growing broiler chickens. Birds in good condition die after showing neurological signs. Factors such as broiler metabolism, physiology, lighting programs, viruses, husbandry practices, feeding strategy, feed texture, house ventilation, breeder flock age and several other culprits such as coccidiostats have all been implicated at one time or another.

Poult Enteritis Mortality Syndrome (PEMS)

This is an infective, transmissible multifactorial disease, affecting turkey poults at the age of 1–4 weeks. It is characterized with diarrhea, dehydration and increased mortality. Histologically, target cells are those of intestinal mucous coat epithelium. Viruses such as enteroviruses (turkey corona virus (TCoV), TCoV belongs to the genus γ CoV and subgenus Igacovirus, which contains other avian coronaviruses (ACoVs) such as infectious bronchitis virus (IBV) and guinea fowl coronavirus (GfCoV), turkey astroviruses (TAsTV), reoviruses and adenoviruses)), and also bacteria such as E.coli, Salmonella, Campylobacter, Clostridia, Cryptosporidium and Cochlosoma

Iatrogenic Complexes

An iatrogenic condition is a state of ill health or adverse effect caused by medical treatment; it usually results from a mistake made in diagnosis or treatment, and can also be the fault of any member of the healthcare team.

Administration of drugs to poultry is probably greatest than for any other class of farm livestock. Use of vaccines, antimicrobials,

disinfectants are the commonly used drugs in poultry practice whereas, pesticides and rodenticides are poisons that are coming through feed ingredients as contaminants.

Vaccine contamination often causes problems in poultry. Use of MD bivalent vaccines enhance LL and was also responsible for introduction of newer problems such as CIAV, Reticuloendotheliosis in poultry.

Drug interactions are often seen with feed additives and growth promoters. For example, high quantities of calcium which is a common ingredient of poultry mash often incriminated to cause parathyroid dysfunction in which there is intense thirst, diarrhea, convulsions and opisthotonus in young and in order birds, signs of cyanosis and emaciation are seen. The morphological lesions include nephrosis, visceral gout and Urolithiasis.

Potassium permanganate, a commonly used disinfectant may cause death in chicken with typical haemorrhages and necrosis of crop wall at higher levels of incorporation.

Nutritional problems that arise from using chemically processed oil cake extracts especially groundnut cake (GNC), and rapeseed cakes cause severe damage to the epithelium of crop and gizzard-cellulitis. Salt poisoning is due to excess salt in feed either through fish meal or by addition. If the salt exceeds the concentration more than 4%, the young birds are highly susceptible. The clinical signs include progressive depression, convulsions and death and the convulsions and death and the lesions are generalised oedema, ascites with myocardial haemorrhage. Nephritis is also a feature in chicken in which subclinical glomerulo-sclerosis leading to renal failure and death. Feeding 3% of salt instead of 6% will cause severe renal damages and forming calcareous stones or Urolithiasis as in IBVV infection,

Toxicity associated with chemotherapeutic agents is usually due to increase in dose or incompatibility. Coccidiostats such as

lonophore, Monessen, Narasin and Salinomycin shows toxicity with tiamulin an anti-mycoplasma drug. Zoaline (DOT) and Nitrofurazone (suspected to be a human carcinogen) produce depression, nervous signs, loss of balance opisthotonus and enhance the toxicity of nitrofurazone. Simulating the clinical signs of AE and RD. lanophore toxicity includes drowsiness, depression, spreading of wings away from the body nervous tremors, flaccid paralysis, prostration and death, but there will be no specific gross lesions of identification.

Nitrofurazone toxicity includes depression, hyper excitability, ataxia and progressive death. Sulfonamide toxicity produces depression of growth, ruffled feathers, anemia, icterus and production loss. The lesions include petechial hemorrhages under the skin, muscles. on myocardium, liver and spleen.

Diagnosis of such complicated issues are the challenges to the pathologist field veterinarian

Conclusion

Many common diseases are influenced by a combination of multiple pathogens and environmental factors. These diseases are referred to as complex diseases and aggravated by genetic and environmental factors. Because of this, complex diseases are difficult to diagnose and treat. A syndrome is a recognizable complex of symptoms and physical findings which indicate a specific condition for which a direct cause is not known.

A syndrome is a collection of recognizable traits or abnormalities that tend to occur together and are associated with a specific disease. A syndrome is really a collection of traits or distinctive features that run together. Similarly, disorder is defined as a disruption of the disease to the normal or regular functions in the body or a part of the body. In all these disease conditions the diagnosis becomes difficult. We have to diagnose using specific tests to confirm the disease.



Brazil Will Send Indigenous Breeds to India to Improve Productivity in Livestock And Poultry

Brazil has started sharing technology with India to help it achieve 20% ethanol blending for petrol by 2025-2026, and will send indigenous breeds to improve productivity in the livestock and poultry sector, said Brazilian Agriculture and Livestock minister Carlos Favaro in an interview recently. Brazil is the world's second largest producer of ethanol.

Brazil will also take measures to correct some of the imbalance in the agricultural trade relationship by improving market access for Indian agriculture exports, including urea to Brazil.

"We, through some companies, have already started sharing the technology to enhance ethanol blending with petrol. As India produces a lot of sugarcane, it's easy for them to reach up to 30% because we already have technologies with a capacity of 27.5% that can go up to 30%. The technology that we are sharing with India will help them to achieve the 20% blending target by 2025-26", Favaro told media during his recent visit to India.

Indio Gigante, also known as Indian Giant is a breed of domestic chicken originally developed in Brazil. It is one of the largest chicken breeds in the world, especially in terms of height. Indio Gigantic chicken weigh, on an average, at least 4.5 kg for males and 3 kg at least for female.

Chicken Prices Decline in Andhra Pradesh

After rallying for more than two months with prices hovering above Rs. 250 a kg, chicken prices have cooled off in Andhra Pradesh with retail prices declining to Rs. 160-180 a kg. This was following a slump in demand in many parts of the region.

Poultry farmers across the state are facing losses following the dip in chicken prices. Many farmers are selling chicken in the open market at a lower price. People practise non-violence during the auspicious month of Karthika (14th November to 13th December) and stay away from eating non-vegetarian food.

As a result, the consumption of chicken, mutton, fish, crabs, and prawns has fallen.

Speaking to media, Sk. Hussain, a meat trader in Vizag city, said the sales have come down by 30 to 40 % in the past one week. The prices of chicken decreased to Rs. 180 from Rs. 230 a kg. The demand has decreased but the supply has been constant.

The price of mutton remained at Rs. 900 a kg despite Karthika month as the supply of goat and sheep never increased, he added. Similarly, the price of fish decreased to Rs.120 from Rs. 150 a kg. Prawn is sold at Rs.280 a kg. The prices may increase only after December, he added. While the demand for chicken, mutton and fish has gone down, people are turning to vegetables, according to the traders. There is about 30% rise in the sale of vegetables.

Kitchen-staple ginger is the worst affected. Available for Rs. 100 per kg at the beginning of summer, ginger was being sold at Rs.200 to Rs.300 per kg depending on the quality in November.

NATIONAL

Traders are selling onions at Rs.50 to Rs.70 a kg and tomatoes at Rs. to Rs. 40 a kg, said M Radha, a homemaker.

The prices of some vegetables have also started rising. White beans which were available only in winter season are sold at Rs.200 a kg in the retail markets, she added. I was wondering why the flavour of ground ginger is missing at the tea stalls. Finally, I came to know that it is probably because the price which remained at Rs.280 a kg for many weeks, said D. Sudhakar, a tea-lover in Vizag city.

Bengal Marks Record Poultry Production in Fiscal 2023-24

In this fiscal, 2023-24, West Bengal has already marked a new record in the production of eggs, milk and meat in the country. The growth rate in egg production in the state has received the highest marks this year, confirmed a senior officer of the Animal Resources Development Department recently. According to Mr. Swapan Debnath, Minister in Charge of Animal Resources Development Department, poultry and dairy sectors have opened a new horizon in this state and has increased the gross income of rural people significantly and many rural youths have become self-dependent in earning through these sectors of animal husbandry. Only a few years ago our target was to become self-sufficient in egg production and we are going to hit our target very soon, the minister confirmed. Chief Minister of West Bengal Mamata Banerji used to encourage the unemployed youths in the state to take up poultry and dairy farming as their livelihood. With her moral support we have achieved the remarkable highest growth in egg production in this fiscal. We are in the front line in egg of production in the country, Debnath added.

According to the State Animal Resources Development Department in the fiscal 2021-22, the state had produced 44.72 lacs MT of milk. In this fiscal it has increased to 69.69 lacs MT; there is a growth of 53.83 % in milk production. In last fiscal the state had produced 5.77 lakh MT of meat and in this year it has increased to 11.66 MT, an increase of 102.72 %.

In last fiscal, the state produced more than 4001 crore eggs in total which has increased to 13758 crore, an average growth rate 243.76 per cent.

The ARDD further informed that in the current year only from the back-yard farming, the state has produced 682.75 crore eggs and private sector poultry farms have produced 657 crore eggs. On the other hand, West Bengal Animal Resources Corporation has produced 15.6 crore eggs to boost the production and meet the growing demand in the state to make the state self-sufficient in egg production.

West Bengal has planned to export the surplus eggs in near future the source added.

Poultry Price Surge in Bangladesh But FAO Opens Global Forum For Animal Feed And Feed Regulators

Scores of international experts, including government officials, researchers and industry leaders from several continents, gathered at the Food and Agriculture Organization of the United Nations (FAO), Headquarters in Rome for the two-day Global Forum for Animal Feed and Feed Regulators.

The Forum focuses on a sector that generates more than \$400 billion in annual commercial turnover and produces more than one billion tons of livestock feed, a key input for animal health, human nutrition and environmental sustainability.

The livestock sector must transform along with other elements of global agri-food systems to be more efficient, more inclusive, more resilient, and more sustainable, to the benefit of people and the planet, FAO Director General QU Dongyu said in his opening remarks at the Forum.

A critical pathway is ensuring the availability, accessibility, quality and safety of animal feed, which will require concrete actions ranging from the management and restoration of grasslands and pastures to the production of fodder and feed ingredients and the processing and use of compound feed, all of which will require appropriate policies and regulations, he added.

"Feeding animals well will feed the world better," Qu said.

The Global Forum is organized to offer an inclusive discussion platform for national and regional feed regulatory competent authorities, FAO members, private sector, researchers, development agencies, financial institutions and civil society. Case studies offer all participants the opportunity to explore cutting-edge innovations and strategies to enhance the production of high quality, safe and environmentally responsible animal feed.

Demand for animal protein, particularly poultry and pork, is increasing due to population growth, urbanisation and improved purchasing power in emerging economies. Meeting that growing demand requires emphasizing environmental concerns, socio-economic considerations and an array of safety issues affecting both animals and humans. Ensuring adequate animal nutrition reduces the need for antimicrobials, thus contributing to contain antimicrobial resistance (AMR).

While livestock feed value chains vary enormously around the planet, it is crucial that small and medium-scale farmers, who make up most of the livestock producers worldwide, are provided with cost-efficient and science-based feed solutions and "access to knowledge, technology, and markets, to improve

their livelihoods, contribute to poverty reduction, and accelerate rural development," Qu said.

Executives from trade groups such as the International Feed Industry Federation (IFIF), scientists and policy experts from Brazil, Ghana, Mexico, Morocco, the Netherlands, Nigeria, Uganda and the United States of America among other countries, and representatives of regional pastoralist networks from around Africa, took part on the Global Forum. They address topics ranging from ensuring feed availability to developing and implementing related legislation optimising feed ingredients for desired health, quality and environmental outcomes.

FAO experts offered insights into the Organization's work on the Sustainable Livestock Transformation Initiative, animal nutrition and feed safety, alternative and advanced feed practices to reduce the need of antimicrobials, and normative work on food standards set out in the Codex Alimentarius. Takeaways from the Global Conference on Sustainable Livestock Transformation held at FAO in September were also discussed.

"We already know many of the solutions," Qu told participants.

Feed typically constitutes between 60% and 80% of livestock production costs. Globally, commercial production or sale of feed takes place in more than 130 countries and some 8,000 plants turn out more than 600 million tonnes of feed annually. Another 300 million comes from on-farm production.

Improving feeding with balanced rations and the efficient use of locally available feed resources can significantly boost profitability. The feed industry could contribute to the bioeconomy by increasing the use of by-products and residues from food processing and other stages of agri-food systems value chains. And with 40% of global arable land used to feed livestock, there is a major opportunity to improve the sustainability of agri-food systems by optimising land use, the report pointed out.



Announcement

Government Urged to Tackle Soaring Maize Prices for Industry Stability

Vets in Poultry (VIP) recently took the initiative of submitting a letter to the Government of India highlighting the issue of soaring prices of maize, a critical component of poultry feed. This is having a massive negative impact on the country's poultry industry. The letter urges the government to consider removing the import duty on maize from (currently 60%) or reducing it to 15%. This move aims to stabilise the rising local maize prices which may lead to high egg and chicken production cost.

VIP has appealed to other associations within the poultry sector to write similar letters to the government in a bid to create a joint and united voice of the industry with the hope of being able to bring about a positive change that will benefit poultry farmers across the country.

We are reproducing the letter by Vets in Poultry.



POLYZYME[®]

FS-SSF enzyme complex for optimum feed digestion

Redefining the
concept of enzymes
in feed nutrition



For any enquires please mail to : info@zeusbiotech.com

www.zeusbiotech.com



ANIMAL FEED & AGRI ALLIED PRODUCTS

TESTING LABORATORY

(NABL ACCREDITED LAB)

FOR AGRI ALLIED FARMERS / PRODUCERS,
ANIMAL FEED MANUFACTURERS.



About JAPFA:

Japfa is a Singapore-headquartered MNC with a legacy of over 50 years in producing and selling high-quality animal feed. It is present in India for more than 25 years. Japfa has now launched testing services from its state-of-the-art, NABL Accredited lab and brings with it the same zest for quality in its services as it has consistently demonstrated in its feed business.

About Our Lab:

Japfa India - Laboratories provides world-class analytical testing services for all types of animal feed, aqua feeds, as well as other feeds, ingredients, agricultural and allied products, minerals, oils and fats, water, and more. We are equipped with world-class quality infrastructure and the finest laboratories in India,

accredited by NABL (as per ISO/IEC 17025:2017), ISO 9001:2015, HACCP, and ISO 22000. We are the most competent and consistent Z score prevailing lab in proficiency testing by authorized PT Providers.



Our 5 E

Equipment
World-class testing equipment

Experience
Highly qualified staff

Efficiency
High efficiency in all operations

Exactness
Accurate and reliable test results

Earliest
Timely delivery of test reports.

Our Services

We do Testing under Chemical Analysis for Animal Feed & Water and Agricultural Products.



Animal Feed Testing

- ▲ Poultry Feed
- ▲ Cattle Feed
- ▲ Sheep Feed
- ▲ Aqua Feed
- ▲ Pig Feed
- ▲ Goat Feed

NIR Analysis

- ▲ Crude Fat
- ▲ Crude Fiber
- ▲ Crude Ash
- ▲ Moisture
- ▲ Crude Protein

Oils and Fats Testing

Mixer Homogeneity Test



Agricultural Products Testing

- ▲ Cereals, Pulses,
- ▲ Cereal by Products
- ▲ Animal by Products

Physical testing of Animal Feed

- ▲ Particle Profile
- ▲ PDI (Pellet Durability Index)
- ▲ Hardness

Minerals Testing

- ▲ Lime stone powder (LSP)
- ▲ Di-calcium Phosphate (DSP)
- ▲ Salts

Water Analysis

Total Volatile Base Nitrogen

Mycotoxin



Adulteration Tests for Animal Feed and Agricultural Products

- ▲ Urea
- ▲ Non-Protein Nitrogen

OUR CERTIFICATIONS

- ISO 9001 : 2015 (QUALITY MANAGEMENT SYSTEM)
- HACCP (HAZARD ANALYSIS AND CRITICAL CONTROL POINT)
- ISO 22000: 2018 (FOOD SAFETY MANAGEMENT SYSTEM)
- ISO /IEC 17025 : 2017 : NABL ACCREDITED LABORATORY

Head Office

JAPFA COMFEED INDIA PVT. LTD.
91, Sakore Nagar Vimannagar,
Pune, 411 014, Maharashtra, India.

JAPFA COMFEED INDIA PVT LTD,
A11, MIDC, Supa-Parner Growth Centre, Nagar-Pune road,
Supa, Tal. Parner, Dist. Ahmednagar - 414 301,
Maharashtra. Call : 93264 40995 | 99709 61531

SAMPLE RECEIVING ADDRESS

JAPFA COMFEED INDIA PVT LTD,
Plot No:4, Sec - B, Industrial Growth Center, WBIIDC,
Nimpura, Rakhajungal, Kharagpur, West Medinipur,
West Bengal, 721 301 Call : 87689 52122 | 97343 12399

Contact us for more information :  97673 66661 |  testinglab.india@japfa.com |  www.japfaindia.com

Product Feature

Poultry Hatcheries and Their problems : Technology Helps in Faster Growth

Srinivas Chindam, CEO & Founder, MLIT Sol Pvt. Ltd

Dr. Vasudha Kuncham, Technical Manager, Animal Nutritionist, Veterinary Doctor, MLIT Sol Pvt. Ltd.

What is Hatchery in Poultry Farming?

The industry that produces and distributes chicks that are one day old through artificial incubation is referred to as a hatchery. In simple words hatchery is where the fertilized eggs are incubated, and chicks are hatched before being sent to a farm to be raised for market. Andhra Pradesh tops the chart of poultry production in India followed by Tamil Nadu, Maharashtra, Telangana, West Bengal, and Karnataka.



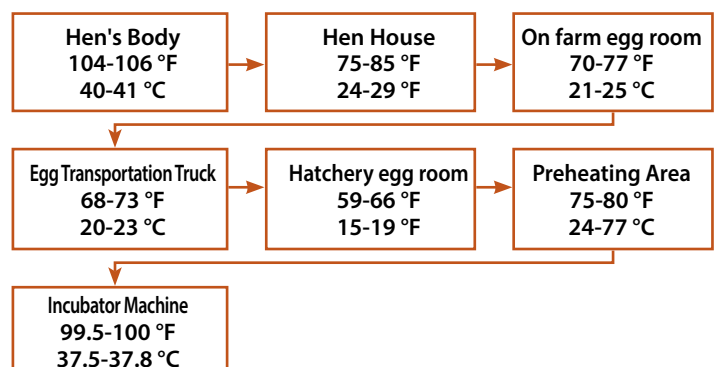
What Should be the Location and Site for Hatchery in Poultry Farming?

- The poultry farms and hatcheries should be in an area which is far away from industrial and residential areas. It should have good ventilation for air and light and basic requirements of water and electricity. The temperature of the environment for the birds should be 22-30°C and the relative humidity should be 30-60 %
- The distance between the hatchery and the chicken house should be at least 1500 feet (460 metres). The hatchery should be kept far from breeding farms, feed mills, and grain storage facilities, though
- The hatchery area should be a distinct building with a separate entrance and exit from the chicken farm
- Size of the hatchery is dependent upon the number of chickens to be hatched in each setting or each week based on the local demand or supply of day-old chicks
- The rooms need to be set up differently to make greater use of the space available, provide a quicker path for the eggs, and limit employee movement

- The structure of the hatchery should allow hatching eggs to be taken in at one end and the chick removed at the other

What are the Main Parameters of Hatchery Management?

- **Temperature:** According to principles of incubation, incubation temperature should be maintained between 99 and 100° F, but the acceptable range is 97-102° F. The optimum temperature for chicken egg in the setter (for first 18 days) ranges from 99.50 to 99.75°F and in the hatcher (last 3 days) is 98.5° F
- **Humidity:** Recommended incubation relative humidity for the first 18 days ranging between 55 and 60% (in setter) and for the last 3 days ranging between 65 and 75% (in the hatcher). Higher humidity during hatching period is given to avoid dehydration of chicks
- **Ventilation (Oxygen and Carbon dioxide level and air velocity):** The setter's air has an oxygen concentration of about 21%. The hatchability decreases by 5% for every 1% decrease in oxygen. The tolerance level of CO₂ for the first 4 days in the setter is 0.3%. CO₂ levels above 0.5% in the setter reduce hatchability and completely lethal at 5.0%
- **Position of eggs:** Holding eggs for artificial incubation should be done with the large ends upwards. Eggs are typically laid large end up during the first 18 days (in the setter) and horizontally for the final 3 days (in the hatcher)
- **Turning of eggs:** Eggs should be turned at least 8 times a day. In large commercial incubators the eggs are turned automatically each hour i.e., 24 times a day. Most eggs are turned to a position of 45° from vertical, and then reversed in the opposite direction to 45° from vertical. Rotation less than 45° are not adequate to achieve high hatchability. Turning is not required in hatcher



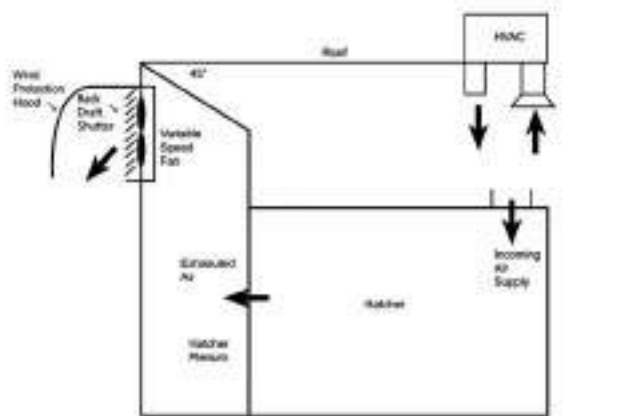
What is Hatchery Management?

Implementation of the hygiene program in a hatchery is not only sufficient to ensure to produce healthy chicks but also is followed in breeding farm, broiler farm, processing unit, transport. All persons who are involved in this process should be aware of all measures, facts, and procedures of hygiene. A collective approach is the only way to ensure best hygienic condition in the hatchery.

The most important goal of any hatchery is to introduce the best quality parent flock with the highest hatchability. Therefore, managing the daily operations of contemporary commercial hatcheries is a crucial managerial task. It's critical to manage machinery and eggs well.

Three primary factors determine the best quality chicks' maximum hatchability. They are:

1. Good quality healthy eggs
2. Successful egg incubation
3. Efficient egg handling equipment and good operation from egg collection on the supply farm to the distribution of chicks from the hatchery



A diagram of the hatchery room with exhaust plenum showing the direction of air flow (Black arrow).

What are the Problems in Hatchery?

Despite a batch's success, it must constantly be watched over. It is advised to open eggs that are still in the tray for all batches at least once every two weeks. Since the root of lower birth rates isn't always identified in the hatchery, it can be challenging to identify the cause in some cases. The issue may have started in the feed factory or be related to the health of the breeders, their management, egg storage and transportation, etc. Additionally, elements such as temperature and humidity may contribute to an anomaly.

The problems that are generally faced in a hatchery are as follows:

1. Broken out eggs
2. Chicks hatch late
3. Death of chicks
4. Reduced growth of chicks

5. Weak chicks
6. Exposed brain
7. Crooked toes and spraddled legs
8. Loss of water from eggs
9. Short or missing beak



Why are the Hatcheries in Poultry Industry Lagging?

How much ever we try to technologically become strong, we must remember that we are still lagging in the fields of animal husbandry. Till today, we face difficulty in proper management, marketing, transportation, and basic facilities.

Every hatchery strives to generate the greatest number of good quality birds from viable eggs. Analysing the eggs that are still in the trays is one of the most effective methods for achieving this goal. A chick may fail to free itself of the shell for many reasons. They include chick strength, chick position, air cell position, disrupted hatch, and improper incubation humidity.

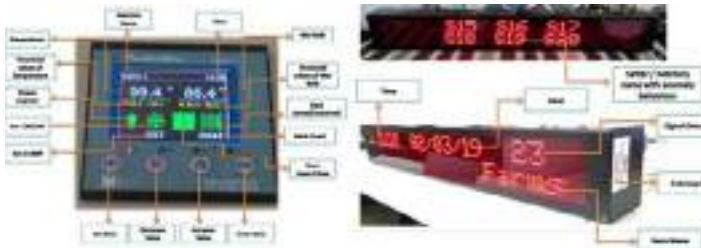
Have you ever thought what can be the solution to these many problems? It is high time we should start thinking on these factors to prevent anymore losses.

MLIT PoultryMon has the perfect device which can be the solution to all these problems. The Hatchery Remote Monitoring with Smart Controller (HRM-SC) is a supernova solution which provides real time remote monitoring of temperature, humidity in the hatchery along with several other parameters like rack turning, fan rpm/speed, power supply and door condition. The gateway sends cumulative information from about 30 HRM

devices to the cloud. The smartcontroller controls the criticals in the incubator with fully integrated alarm management, alerts automatically and detects changes to temperature, humidity, fan rotation, malfunctioning, door open or power loss in setters and hatcher.

As a result, we can see 1-2% reduction in risk, 1-2 % increase in hatchability, 30-50% reduction in cull percentage, reduction in 3% of electricity consumption, improved quality and quantity of the chicks, better labour management and bird welfare.

IMAGES OF DEVICES:



POULTRYMON APPLICATION



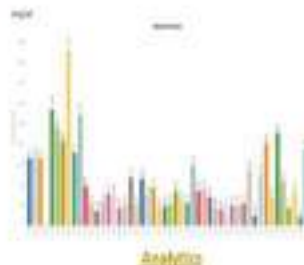
IMAGES OF WEB AND MOBILE INTERFACES OF



REAL TIME ANALYTICS

PoultryMon provides real time analytics enabling data driven decisions during critical time intervals

- ▣ Parameter Anomaly System
- ▣ Deviation Time range analysis
- ▣ Staff role analysis
- ▣ Machine usage analysis
- ▣ Hatch cycle analysis
- ▣ Standard reports



SOLUTION FEATURES

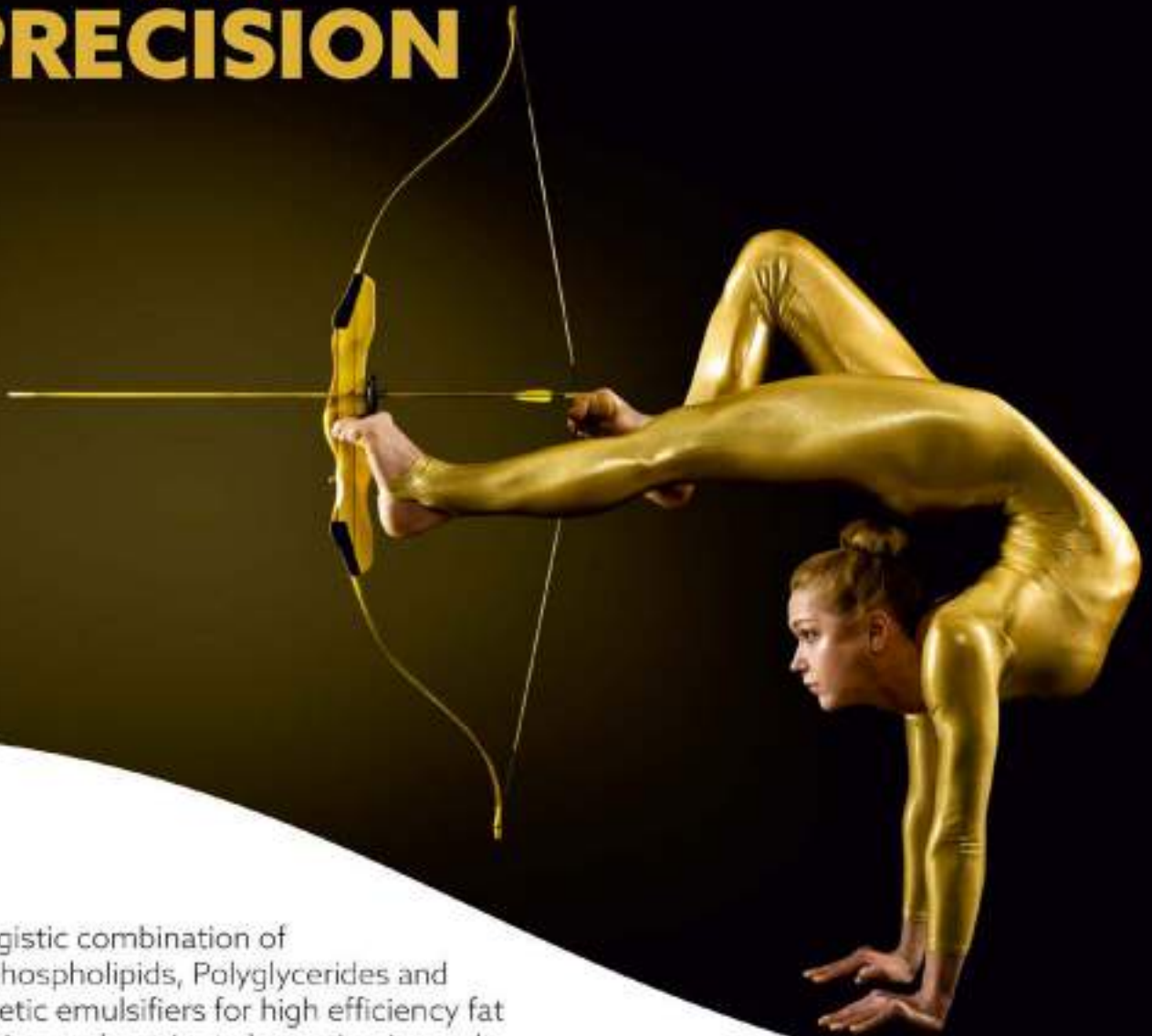
As part of the PoultryMon solution we will be providing the below:

- ▣ Custom Mobile Application
- ▣ Web Application
- ▣ IoT devices
- ▣ Network connection gateways
- ▣ Online Data storage
- ▣ Monthly Analytical reports
- ▣ Real time Analytics
- ▣ SaaS and deviation Analysis
- ▣ Anomaly reports
- ▣ Online/On field support
- ▣ Customer care



Analytical Dashboard

FLEXIBILITY WITH PRECISION



Synergistic combination of
Lysophospholipids, Polyglycerides and
Synthetic emulsifiers for high efficiency fat
digestion and nutrient absorption in poultry

Improves Oil energy
and AME value

Faster, better digestion and
absorption of nutrients

Improves weight gain
and reduce FCR points

Lysoforte® 2.0

Science of Superior Nutrient Absorption

KEMIN

kemin.com

© Kemin Industries, Inc. and its group of companies 2023. All rights reserved. ** Trademarks of Kemin Industries, Inc., U.S.A.
Certain statements, product labeling and claims may differ by geography or as required by government requirements.

NHU[®] Water-soluble vitamin series

Empowering the animal nutrition value chain

- Abundant variety of vitamins
- More advanced technology
- High quality and steady supply

Becoming a more reliable partner in animal nutrition!



Follow us on:   

Visit us on: www.cnhu.com/en

Telephone: +91 9848 046 244 / +86-575-86296976

Email: Marketing@cnhu.com / Selvan@valueconsultants.co



Exploring Chemistry, Improving Life

Event

Rutgers University and IIT, Kharagpur's Joint Research Project



In an interesting collaboration, Rutgers University, New Jersey, USA and Indian Institute of Technology, Kharagpur have undertaken a research project on studying the poultry feed supply chain in India and the use of millets in poultry feed. The project is being led by Prof. Sanjib Bhuyan from Rutgers University and Prof. Kishor Goswami from IIT, Kharagpur.

A meeting was held on 10th November at the IIT, Kharagpur campus to present the research findings to a select group of stakeholders of the Indian poultry industry with the objective of receiving feedback before the finalisation of the report.

In the first presentation Dwiti Baruah Thapa detailed "What factors determine India's import demand for commodities used for food and feed? An empirical analysis of India's demand functions for corn and soybean."

The burgeoning interest in animal protein based products in India has led to a surge in demand for feed ingredients, notably corn and soybean meal. However, domestic production fails

to meet this escalating need, creating a substantial deficit and necessitating imports, consequently driving up prices. She added that the research delved into various factors impacting India's demand for corn and soybean meal such as GDP spending on food, urbanisation, food and agricultural exports, and import price index. The findings uncovered a lasting correlation between import volumes and economic / demographic factors. It was important to note that increased GDP spending on food led to a short-term upsurge in import demand, partially bridging the supply gap. The swelling

urban population significantly affected dietary preferences driving long-term demand surge for these commodities. Furthermore, India's import decisions were influenced by its global role as a food and agricultural exporter. Anticipated substantial growth in corn and soybean meal import demand was projected particularly due to the expanding poultry industry influenced by evolving urban consumer choices. The study underscores the intricate interplay between urbanisation, population growth, consumption patterns, and India's import strategies for essential feed ingredients. It stresses the imperative need for a reliable supply chain to sustain the burgeoning poultry industry. Additionally, it fills a crucial gap in understanding the connections between urbanisation and agricultural imports, providing indispensable insights for stakeholders to plan strategies in the feed industry.

The second presentation, delivered by Partha Pratim Saikia spoke about "Market competition for imported agricultural raw materials in the Indian animal feed industry."

The USDA's report highlights India's commercial feed industry dominating more than half of the animal feed market, primarily serving poultry, aquaculture,





and dairy sectors using corn and soybean meal supplemented by other grains. The sector significantly impacts India's livestock growth and economy, with a projected 7% annual increase in feed ingredient demand, expected to reach 28 million metric tons by 2027. However, insufficient local production due to infrastructure inadequacies and poor quality raw materials creates a supply gap. To address this, the study investigates India's reliance on agricultural imports on feed production. Using UN Comtrade data, the research identifies 13 key commodities for poultry feed and analyses their trade dynamics from 2000 to 2022. It reveals India's reliance on imports, primarily from Asian and African countries due to lower costs compared to developed nations like the US and Europe. Despite efforts to bolster domestic production, India's stagnant yields of essential crops like corn and soybean necessitates ongoing imports. India imports from various countries, diversifying its sources strategically based on cost consideration. There's an ambition to reduce dependence on specific nations like China, creating opportunities for other countries to strengthen trade relations with India in agricultural sectors. The study highlights the necessity for India to enhance domestic production while exploring trade diversification to reduce dependency and foster beneficial international relations in agriculture. This strategy aims to increase market opportunities and profitability for both Indian and foreign producers.

The final presentation by Dipanjan Kashyap was on "Poultry feed supply chain in India."

Over the last forty years, the Indian poultry industry has undergone a significant transformation showing an annual growth rate of about eight percent.



This growth is marked by improvements in productivity, sophistication, and quality, particularly in the development of high yielding layer and broiler breeds. India ranks third globally in egg production and fifth in broiler meat production. The poultry feed industry has also seen substantial growth to meet increasing consumer demand for poultry meat protein. Understanding the diverse supply chain models across different regions of India is crucial in maintaining the sector's efficiency and resilience. For instance, the southern region involves Farmer Producer Organisations (FPOs) and Farmer Producer Companies (FPCs), enhancing raw material quality and reliability. Conversely, the northern region relies on government – regulated mandis for transactions and market information dissemination. These regional differences present challenges in effectively addressing sectoral issues. However, limited publicly available data hinders comprehensive analysis and decision making. Feed manufacturers in India are calling for increased accessibility to affordable corn and soybean to effectively manage the cost of feed production. Two potential strategies have been proposed - first, expanding the cultivation area and introducing high-yielding varieties of corn and soybean within the country

could be a significant step forward. This would involve forming agreements between the industry and farmers before the season begins, incentivizing farmers to utilise currently unused or underused land for corn and soy cultivation. Secondly, gradually allowing the import of these feed ingredients from abroad could help alleviate high prices. However, both approaches necessitate collaboration among the feed industry, farmers, and strong commitment from the government. Moreover, to cater to the increasing demand for poultry meat protein in India, the poultry feed industry needs to enhance its production and marketing efficiencies. Achieving this goal would involve comprehensive improvements in supply chain components, coupled with policy reforms and strategic investments in public goods like transportation infrastructure.

Christopher Stum of Faithwalk Farms Inc., a farmer from Colorado, USA spoke about his experiences as a farmer and how he processes his produce, mainly wheat, corn and proso millet to sell to the food market as well as multiple feed markets.

In addition to the research teams, the meeting was attended by Dr. Dinesh Bhosale and Atmaram Yadav, A B Vista; Someshwar Zadbuke, Noveltech Feeds; Dr. Abhijit Mishra, Independent Freelance Poultry Nutrition Consultant; Dr. Sudipto Halder and Dr. Arindam Chatterjee, Agrivet; Sandip Guha, Bunge Ltd; Nagesh Yadav, Komarla Feeds and the Purchase Head from Anmol Feeds.

An interactive session followed where the industry experts provided inputs to the research teams to help them fine tune and bolster their research findings.



Lincomax FORTE



Complete Performance Enhancer

● Broilers ● Layers ● Breeders

How Lincomax-Forte Performs Better than Popularly Used Antibiotic Growth Promoters

Activity	Lincomax Forte	Enramycin	Avilamycin	BMD	Tylosin Tartrate	Tiamulin
Gram +ve bacteria	+++	+++	+++	+++	+++	+++
Gram -ve bacteria	+++	NO	NO	NO	NO	NO
Anaerobic bacteria	+++	NO	NO	NO	NO	NO
Mycoplasma	+++	NO	NO	NO	+++	+++
Appetite stimulation	++	NO	NO	NO	NO	NO
Acidification	+	NO	NO	NO	NO	NO
Immunity boosting	+++	NO	NO	NO	NO	NO
Antiprotozoal	+++	NO	NO	NO	NO	NO
Modulation of intestinal epithelium	++	NO	NO	NO	NO	NO
Modulation of intestinal microbiota	++	NO	NO	NO	NO	NO

Lincomax-Forte – “A Complete Performance Enhancer”

AYUGEN[®]
PHARMA PVT. LTD.
(An ISO 22000:2018 & GMP Certified Company)



Regd. Office: 202, “Aranya,” Aamachi Colony,
Behind Venky's Express, Bavdhan Pashan Road,
Pune - 411021. Maharashtra.
Customer Care No. 9730076211/9730076216
E-mail : info@ayugenpharma.com

Event

Indo – Dutch Symposium Spotlights Pathways to Poultry Sustainability

The Netherlands Business Support Offices organized a symposium titled “Towards a Sustainable Poultry Sector” in Hyderabad on 22nd November. This was arranged to honour the visit of Michiel Van Erkel, Agricultural Counsellor-India along with the Netherlands’ business delegation to Poultry India Expo 2023.

The symposium, featuring a distinguished lineup of speakers, witnessed a positive response from the poultry fraternity.

Sustainability, a widely discussed concept globally, remains a challenge due to its somewhat limited comprehension of implementation methods. Addressing this challenge was Prof. (Dr.) P.K. Shukla, Dean, College of Veterinary Sciences and Animal Husbandry, DUVASU, Mathura who delivered an exhaustive and impactful presentation on achieving sustainability goals within the poultry industry.



Bouke Hamminga, Director of Sales, Royal PasReforms, shared insights on the profound impact of modern hatching technologies on sustainable poultry production. His presentation introduced innovative concepts aimed at accelerating growth and enhancing profitability.

Edouard Perrault, Director at SASSO (Hendrix Genetics), highlighted the transformative effect of genetic innovation on traditional coloured bird farming in African and Asian tropical regions. His experiences showcased how advancements in genetics positively influence the income and nutritional needs of rural farmers, aligning with India’s objective of doubling farmers’ incomes.

Michiel Van Erkel’s efforts were lauded for creating a beneficial exchange of ideas and partnerships aimed at industry

growth. The event also saw substantial participation from Dutch investors and companies, emphasizing their consistent support for such gatherings.

The symposium was moderated very adeptly by Selvan Kannan of value Consultants. He facilitated engaging interactions between speakers and the audience.

**The Ultimate Choice to make
Mycotoxin consequence negligible**

TOXK/L



Aflatoxins



Ochratoxins



Trichothecenes

**Maximize Nutrient Uptake with the Science of
Glycine & Curcumin Chelation**

Chelomix



**Only
Organic Trace
Minerals**

Complete glycine
chelated Mineral Premix
for Broilers, Layers & Breeders
fortified with Curcumin extract



Event

B V Bio-Corp Technical Seminars



A technical seminar for layer farmers titled “BV 300 Nutrition and Management” was organised by Venkateshwara BV Bio-Corp at Ajmer on 6th November.

The session opened with a welcome address by Shashi Bhushan, Zonal Manager, Venkateshwara BV Bio-Corp. Deepak Khosla, General Manager – Marketing shared his thoughts on the current scenario of the commercial layer industry.

Dr. Sunil Nadgauda, Deputy, General Manager – Technical was the speaker at the seminar. He cautioned about being watchful regarding quality parameters while selecting feed ingredients.

His presentation covered:

- BV 300 performance review
- 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 efficiency
- Alternative sources of protein and energy and precautions to be taken while using alternative feed ingredients

- Maintaining egg shell quality during extended laying periods
- Innovative premix solutions to simplify the feed manufacturing process and also to avoid errors during feed production. Mixblend is the new innovative and simple solution which provides vitamins, trace minerals, enzymes, toxin binder, liver tonic in required proportion to boost productivity

The presentation, attended by around 140 layer farmers, was followed by a question and answer session. Shashi Bhushan proposed the vote of thanks.

Seminars titled “Broiler Breeder Nutrition and VComix (5% Composite Premix) were organised on 7th and 8th November at Ajmer and Jaipur respectively by Venkateshwara BV Bio-Corp.

Deepak Khosla, delivered the welcome address and shared his thoughts regarding broiler breeder scenario in Rajasthan and across the country.

In his address Dr. Sunil Nadgauda spoke about quality parameters to be considered while selecting feed ingredients. His talk encompassed :

- Broiler breeder nutrition review and current nutritional recommendation for better productivity
- Importance of chicks nutrition for

good start of the flock

- Importance of nutrition to maintain body weight in growing period and its impact on laying performance
- Early laying female nutrition to maximize peak production and to maintain the consistency during peak period
- Phase wise feeding – to maintain egg production after peak period and optimize efficiency
- Maintaining the egg shell quality to achieve maximum number of hatching eggs selection
- Significance of male feed to achieve good fertility and hatchability
- VComix (5% Composite Premix For Broiler Breeder) is a good alternative to provide balanced nutrition to improve productivity
- VComix - innovative premix solution for simplifying the feed manufacturing process and also to avoid errors during feed production
- VComix – ensures completely balanced nutrition and enhances health and productivity

The seminar, attended by 18 layer farmers, concluded with a question and answer session by Dr. Nadgauda and vote of thanks by Shashi Bhushan.

THE MOST RELIABLE PHYTASE



SUPERtase™

The Most Reliable Phytase-Forget the Rest.

- Next generation bacterial phytase-Buttiauxella Species.
- Most reliable matrix values.
- Improved phosphorous, energy and amino acid availability.
- Faster and efficacious breakdown of Ip6.
- Most active in the acidic environment of proventriculus and gizzard



VENKATESHWARA B.V. BIOCORP PRIVATE LIMITED

(An ISO 9001:2015, OHSAS 18001:2007 & GMP Certified Company)

Venkateshwara House', S. No. 114/A/2, Pune-Sinhagad Road, Pune-411030

Tel.: (020) 24251803, Fax: +91-20-24251060/24251077, Website: www.venkateshwarabvbiocorp.com

Event

The Country Celebrates National Chicken Day

The Pan India Broiler Coordination Committee, under the stewardship of Vansthkumar C Setty organised National Chicken Day celebrations across the country on 16th and 17th December to commemorate the birth anniversary of the Father of the Indian Poultry Industry, Late Padmashree Dr. B.V. Rao. These programmes were conducted in collaboration with state associations and various pharmaceutical companies.

Here is a round-up from various regions.

West Bengal

Under the leadership of Madan Mohan Maity, General Secretary, West Bengal Poultry Federation organised various activities in Kolkata which included offering chicken at concessional rates across 450 shops in Kolkata, city-wide display of banners promoting chicken consumption, a chicken recipe competition with prize distribution by a popular television artiste and mobile tableaux emphasizing chicken quality.



Chattisgarh

Sanjay Brahmanekar, President of Chattisgarh Association spearheaded the celebrations initiating National Chicken Day celebrations across 50 shops from 6th November.



Maharashtra

Pune witnessed an awareness campaign involving discounted chicken sales across city shops. The Poultry Farmers and Breeders Association Maharashtra organised various programmes promoting chicken awareness among citizens.



Karnataka

The celebrations in Karnataka included offering discounted chicken in 100 shops across Mangalore, Bangalore, and Belgaum. Additionally, weightlifting competitions were sponsored as part of the activities. Prof. G. Devegowda, President, Institution of Veterinarians of Poultry Industry (I.V.P.I.) enlightened visitors at Krushi Mela through the Poultry World stall from 18th to 20th November. The free distribution of eggs and 500 kgs. Of chicken garnered significant attention and positive responses.



Alltech, a leading global feed additive company embarked on an educational journey in schools across Bangalore and Delhi, enlightening children about the importance of chicken quality and its role in their growth.



Speaking on the occasion, Vasanthkumar Setty said, " This day is being celebrated with the aim of creating awareness about chicken among common citizens. Poultry Farmers and Breeders Association Maharashtra, Karnataka Poultry Farmers Breeders Association, West Bengal Poultry Federation and many other state poultry associations organized various programs across the country. In this awareness campaign, various activities like sale of cheaper chicken, awareness programs, lectures, demonstrations, training are being organized."





Emulso-V[®]

A Unique Nutritional Emulsifier

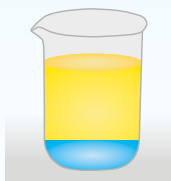


Unique Booster for Digestion and Absorption of Fat

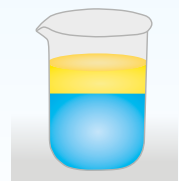
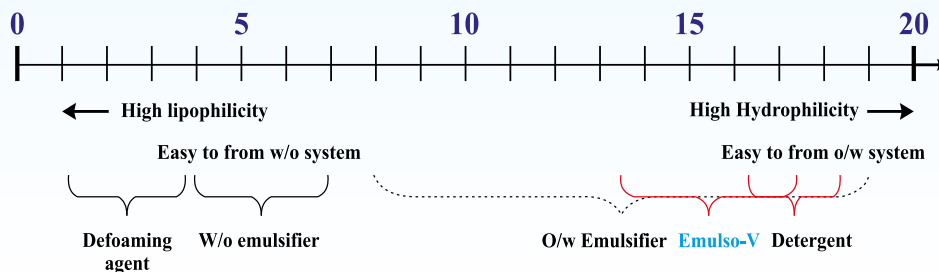
- ◆ **Emulso - V** is the key solution for oil / fat emulsification and it's absorption.
- ◆ **Emulso - V** promotes energy utilization of oils / fats
- ◆ **Emulso - V** possesses high HLB value hence capable of emulsifying fat / oil in water (O/W).
- ◆ **Emulso - V** improves FCR
- ◆ **Emulso - V** has good Bio-Surfactant activity and synergistically act with bile salts.

Composition:

- ◆ Glycerol Polyethylene Glycol Ricinoleate
- ◆ Blend of Phytogenic Hydrophilic Emulsifiers



HLB = 0



HLB = 20



For further information please contact :

VENKY'S (INDIA) LIMITED
ANIMAL HEALTH PRODUCTS DIVISION

An ISO 9001 Certified Company

"Venkateshwara House", S.No.: 114/A/2, Pune - Sinhagad Road, Pune - 411 030 (India)

Tel : +91- 20-24251803 Fax : +91-20-24251060 / 24251077 www.venkys.com e-mail : ahp@venkys.com

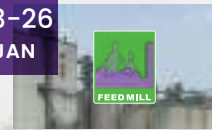
Progressus AgriSchools 2024

A comprehensive list of industry related, well-designed short training courses that elevate talented industry professionals to the next level



Upcoming Courses

23-26
JAN



Livestock Feed Mill Management

23 - 26 January 2024
Bangkok, Thailand

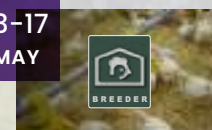
05-08
MAR



Broiler Management

05 - 08 March 2024
Bangkok, Thailand

13-17
MAY



Breeder Management

13 - 17 May 2024
Bangkok, Thailand



• Learn • Refresh • Connect

About Progressus AgriSchool

Since 2011, Progressus has made it its mission to be delivering quality, unbiased, practical information and training to the livestock and aquaculture industry through its best spoken AgriSchools short courses.

Progressus understands that people are the most important assets for businesses and we are committed to having a positive impact on Agribusiness development through people!

Ours Courses

The AgriSchool short courses cover a variety of topics including; nutrition, health, production, operations and management across a variety of subject matters;

- ✓ Feed Milling
- ✓ Swine
- ✓ Aquaculture
- ✓ Ruminant
- ✓ Pet
- ✓ Poultry



• In-Person • Online • On-Demand

In Collaboration With



Would like additional information? You can reach us here;

agrischools@progressus.asia
www.progressus.asia



LARGEST POULTRY EXHIBITION IN EASTERN INDIA



10th **KOLKATA** International **POULTRY FAIR** T W E N T Y **24**

**Limited Stall
Available**



Organised by:
West Bengal Poultry Federation

In Association with:
Animal Resources Development Department
Govt. of West Bengal

Fair inauguration Programme

Date: 6th Feb 2024 • **Time:** 7pm

Place:

Taal Kutir Convention Center, ECO Tourism Park,
Action Area II, Newtown, Kolkata.

VENUE:

Eco Park- Major Arterial Road
(South-East, Biswa Bangla Sarani),
Action Area II, Newtown, Kolkata,
West Bengal - 700 156, INDIA



NOVACON

CONFERENCE ON INNOVATION
POULTRY BUSINESS

*Interactive Seminar with
Internationally Reputed Speakers*

Date: 6th Feb 2024 • **Time:** 10am to 10 pm

Place:

Taal Kutir Convention Center, ECO Tourism Park, Action Area II, Newtown, Kolkata

Exhibition Date:

6th, 7th, 8th & 9th February, 2024



West Bengal Poultry Federation

CONTACT

Everest House, 46C, Chowringhee Road, 11th Floor, Room No. C, Kolkata - 700 071

Phone: 033-4051 5700 / 4063 1307 • **Mob:** 90515 55506 / 77193 62347

Email: info.kipf@yahoo.com, wbpoultryfederation@yahoo.in • **Web Site:** www.ipfkol.com, www.wbpoultryfederation.com

You are cordially invited

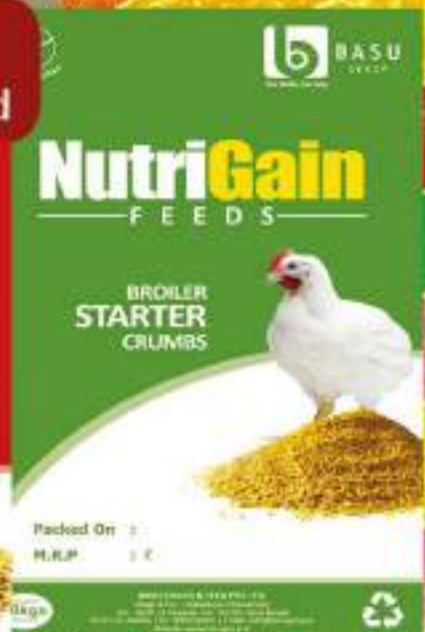
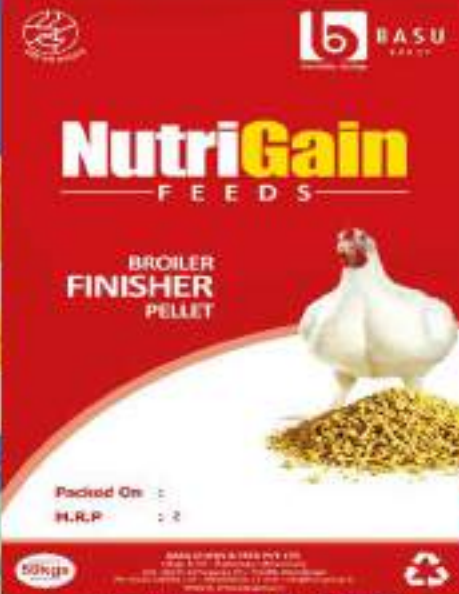


BASU
GROUP

BASU CHICKS & FEED PVT. LTD.
BASU AGROFARMS PVT. LTD.
BASU HATCHERIES PVT. LTD.
BSK AGROFEEDS PVT. LTD.



NutriGain
Super Premium Feed



- Reduced Bacterial Load ■ Nutritionally Beneficial, Ensures Better Livability ■ Provides Uniform Growth
- Easily Digestible ■ Balanced Pick for Balanced Broiler ■ High Quality Modern Packaging (BOPP bags)
- Lower Feed Wastage ■ Increases Disease Resistance in Flocks ■ Technical Support & Training If Required
- Gets Better Weight Gains and Obtains Better FCRs ■ Prompt & Fast delivery ■ Reduced Dustiness
- Improved Palatability ■ Reduced Medicine Cost

Live Chicken

Day Old Chicks

Contract Broiler Farms

Commercial Poultry Feed

Regd. Office: Village & P.O - Rajballavpur (Biswashati),

Dist: North 24 Parganas, Pin - 743289, West Bengal | ☎: 03216-246096 | 📠: 9083260026 | E-mail: info@basugroup.in

City Office: A/P - 152/A, Canal South Road,

Metropolitan Co-operative Housing Society | Kolkata - 700105 | ☎: 033 4003 7446 | Website: www.basugroup.in

eXolution
Bacterophage F

We took an already great product and made it even better.

eXolution is now Xcelsio.

Our relentless effort to make the world a safer and healthier place has led us to create Xcelsio. After years of cutting-edge research in Korea, we have come up with an advanced formulation to make Xcelsio more potent than before.

Xcelsio comes with a more concentrated cocktail of bacteriophage and is fortified with more Bacillus subtilis. This new and improved formulation, created specifically for use in

poultry, is simply unmatched in controlling pathogenic bacteria—giving you Total Gut Control.

Each of our bacteriophages is painstakingly selected using our proprietary Bacterophage F technology to target and eliminate specific bacteria; leaving other beneficial bacteria completely unharmed. This natural surgical strike on disease-causing bacteria is the safest, non-toxic, and most effective prophylactic alternative to antibiotic growth promoters.

xcelcio

Natural Feed Additive



BENEFITS TO THE FLOCK

Natural:
No Toxins, No Residues, No Side-effects, No Withdrawal Time

Surgical:
Targets and eliminates specific bacteria, even those resistant to antibiotics

Protective:
Maintains gut bio-balance by retaining beneficial bacteria

Probiotic:
Enriched with Bacillus Subtilis

Flexible:
Compatible with all Performance Enhancers, Growth Promoters, Acidifiers, Anti-Oxidants, Minerals & Enzymes

BACTERIA IT CONTROLS

Salmonella
Typhimurium, Gallinarum, Choleraesuis, Derby, Dublin, Enteritidis, Pulchrum

E. Coli
F4 (K88), F5 (K89), F6 (987P), F18, F41

Clostridium Perfringens
Type A, C, B, D, E

Staphylococcus Aureus

FOR USE IN
BROTTLERS, LAYERS
& BREEDERS

MADE IN KOREA BY:

CTCGLOBAL
INCORPORATION



MARKETED BY:

Sapiencia Agribusiness Consulting LLP
500 WEBB LANE, 4TH FLOOR
3RD FLOOR, 3RD FLOOR, KULAN HUBB
BANGGALORE 560043, KARNATAKA (INDIA) 31634

sapiencia

Moulding the Future of Indian Poultry

The 15th edition of the Indian poultry industry's signature annual event, Poultry India Expo was organised at HITEX Exhibition Centre, Hyderabad between 22nd and 24th November. Over the years, this expo has emerged as the cornerstone event in South Asia's poultry industry landscape. With an impressive participation of 422 exhibitors, the expo is a comprehensive platform showcasing innovation, technology, and advancements within the poultry sector. Known for its scale and significance, Poultry India Expo served as a rendezvous for industry stalwarts, researchers, innovators, businesses, and policy makers to converge under one roof to explore, network, and collaborate.

As in previous years, Poultry India Expo 2023 was preceded by the much looked-forward-to Poultry Knowledge Day 2023 on 21st November. The theme of this year's Knowledge Day was "Shaping the Future of Indian Poultry Sector." At the very beginning, Prof. P. K. Shukla, Chairman, Poultry Knowledge Day provided an overview of the day's seminar. He also traced the journey of the Indian poultry industry from producing 2 billion eggs during the first 5-year plan to the current volume of 130 billion eggs – remarkable indeed! Chicken meat production is also at an astounding 9 million MT per year. Prof. Shukla stressed the need for having real time data which can be used to showcase India as a major producer of chicken and eggs in the global arena. He added that in addition to chicken and eggs, the industry was also showing great progress in the domain of poultry equipment manufacturing and India is currently exporting equipment to 35 countries.

The highlight of Poultry Knowledge Day 2023 was the keynote address by

Tarun Shridhar, Member, Central Administrative Tribunal and Former Secretary, Ministry of Fisheries, Animal Husbandry and Dairying, Government of India – a widely acclaimed authority on the animal husbandry sector. He began by saying that poultry leads all the sub sectors of the animal husbandry sector and has had the smoothest run thus far. Over a period of time the poultry sector has got integrated and transformed into an industry rather than being just subsistence agriculture. He added that the growth of poultry has been very consistent. Quoting FAO data, Shridhar said that over the last three decades while the consumption of beef and pork has remained stagnant, that of poultry has increased 70%. Further quoting the same study he said that the projected per capita demand of poultry in South Asia between year 2000 and 2030 is a whopping 271%. This, he added, is a huge opportunity waiting to be capitalised upon. Identifying challenges, Shridhar highlighted the volatility in maize and soybean prices as a major hurdle, advocating for governmental intervention to address this issue. He stressed the urgency of adopting GM crops as a necessity for the advancement of animal agriculture and the economy, urging the industry to advocate for this with policymakers. Shridhar also advised the poultry industry on the need for communicating with and educating consumers. This will ensure that knee-jerk reactions triggered by misinformation about the industry are avoided. He also said that the industry needs a unified voice which is sadly missing. Shridhar cautioned against the burgeoning growth of plant based meat analogues, particularly since their growth rate is the same as that of poultry. He suggested strategies such as promoting eggs as a milk substitute for milk and also to

serious contemplate and work towards exports and global trade.

In her address Alka Upadhyaya IAS, Secretary, Department of Animal Husbandry and Dairying, MOFAHD, Government of India congratulated the poultry industry for the great strides and progress made. She also said that of all the Infrastructure Development Funds created by the government, the Animal Husbandry Infrastructure Development Fund has been utilised the best to date. She encouraged the industry to make full use of this scheme. She added that with ethanol as a fuel becoming a reality, the government and industry will have to find an alternative to maize. Soybean prices is also an area of focus for the government and a solution will need to be found to control the price volatility of this commodity, added Upadhyaya. She added that the poultry industry needs to be more organised and more demanding of policymakers. Speaking on the issue of export of eggs Upadhyaya said that a major step that has been achieved towards this goal with the declaration by WOA of 28 disease free poultry compartments in the country with 10 more in progress. She further said that the efforts towards aggregation need to be accelerated. She encouraged the setting up of farmer-producer companies on the lines of what has happened in the dairy sector. The Secretary also encouraged the adoption of technology by the industry and the export of equipment.

As in previous years the Poultry Knowledge Day featured thought provoking presentations and panel discussions by industry experts and visionaries. Speakers at Poultry Knowledge Day 2023 were:

- Mr. Debaraj Das, COO, Baramati Agro Pvt. Ltd.

- Mr. Samarendra Mishra, Co-founder, Ovo Farms
- Mr. Gaurav Bhosale, Yojana Poultry Pvt. Ltd.
- Mr. Govindraj Ethiraj, Journalist and Founder, www.boomlive.in
- Mr. Jonathan Ratcliff, Technical Director, Agentis Innovation
- Mr. Tim Burnside, Global Vice President, Welfare & Sustainability, Aviagen
- Mr. Gordon Butland, Director G & S Agri Consultant & Co. Ltd.

The event also saw a panel discussion moderated by Prof. P. K. Shukla on "Shaping the Future of Indian Poultry Sector." Panellists were Dr. O. P. Chaudhary, Mr. Balram Singh Yadav and Mr. K.G. Anand.

Poultry Knowledge Day has built a reputation of inviting interesting

motivational speakers and this year was no different. The speaker this year was the Moon Man of India, Padmashree Dr. Mylswamy Annadurai from ISRO.

Two legends of the Indian Poultry Industry – Dr. T. Kotiah and Venkata Rao were honoured with lifetime achievement awards.

Poultry India Expo 2023 was virtually inaugurated from the stage of Poultry Knowledge Day on 21st November by Alka Upadhyaya IAS, Secretary, Department of Animal Husbandry and Dairying, MOFAHD, Government of India.

Speaking about their participation in Poultry India 2023, Vinay Kulkarni, Executive Chairman, Optima Life Sciences said "Our participation in Poultry India Expo 2023 reflects our ongoing commitment to providing innovative and sustainable solutions for the poultry

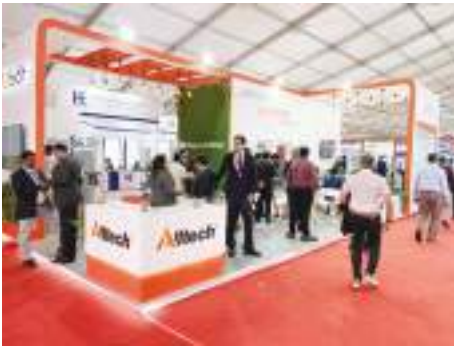
industry. We are delighted to have had the opportunity to connect with industry peers, showcase our latest products, and contribute to the collective growth of the sector." Optima unveiled its latest range of cutting-edge products designed to enhance efficiency and productivity in poultry farming. The team conducted engaging demonstration sessions that allowed attendees to experience first-hand functionality and benefits of the advanced poultry solutions.

Nutrex showcased a range of innovative feed additives at the expo. These products are designed to help producers maintain healthy gut flora in animals, which is essential for optimal nutrient absorption and immune function. According to a communiqué from Nutrex, Poultry India Expo facilitated the team's meeting with customers and business partners from all over South Asia.













Creating values

Poultry of the Highest Quality!



HITECH HATCH FRESH PRIVATE LIMITED

Metropolitan Co-Operative Housing Society Ltd., Sector - 8, Plot No. - 28, Canal South Road, Kolkata - 700 105
Ph. : 91-33-40638301 | Fax : 91-33-40638315 | E-mail : hitechhatchfresh@rediffmail.com | Website : www.hitechhatchfresh.com

Integration Office:

BHALLUKA • NATAGARH • KATWA - 9134148203 | BASIRHAT - 93217 263744 | BADURA - 033217 239444
BURDWAN • BHATAR • SURJ • SALAR • PLASSEY • BANKURA - 6562891213 | BHADRESHWAR (HOOGHLY) • MALDA • BANRIPUR - 2633 6973, 6603814062

VH ND SHIELD

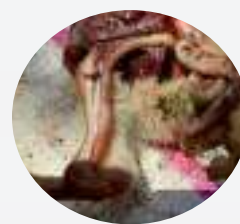
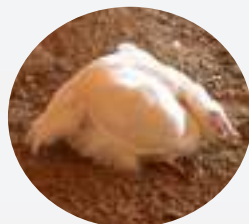
Mucosal Immunity
(Live vaccine)







Cellular Immunity
(Inactivated Vaccine)



Early Protection in Broilers against Catastrophic Genotype XIII Newcastle Disease Virus



Unique Qualities :

-  High Antigenicity - > 1000 HAU (Hemagglutination Virus Units)
-  Low volume - 0.1 ml / chick.
-  Fast and high immune response.
-  Live + Killed vaccines - provides both mucosal and cellular immunity.

VENTRI BIOLOGICALS
(Vaccine Division of VHPL)

Venkateshwara House, S. No. 114/A/2, Pune-Sinhgad Road, Pune - 411 030. Tel. : +91-20-24251803 Fax : (020) 24251077, 24251060



Email: ventri.biologicals@venkys.com

www.venkys.com



RADIO

from Indian Poultry Review

Powered by



sapience
south asia

**A fortnightly
podcast series
streaming every
2nd and 4th
Saturday on**



Tune in to stay abreast
with the latest in the **livestock**
and **fisheries** sectors

SCAN



To Listen / Download

Also streamed on www.iprradio.in



VICTAM Asia 2024 : Celebrating 30 Years



Since its inception in 1991, VICTAM Asia has grown into a distinguished event. Today, it stands as the premier showcase in Asia for the latest innovations in the animal feed, health, nutrition and grain processing sectors. VICTAM Asia, Health & Nutrition Asia and GRAPAS Asia 2024, hosted by the Victam Corporation and VNU continue to provide an unparalleled platform for the latest advancements within these crucial industries.

Sebas van den Ende, General Manager, Victam Corporation remarked, "following the challenges of restarting major events after the COVID-19 era, VICTAM Asia 2022 turned out to be a successful event. Spanning over 5,800 sqm, it brought together 231 exhibitors from 33 countries and attracted 6,121 visitors from 64 countries. Notably, more than 21% of these were key decision makers in their respective fields. For 2024, we are building on this foundation to deliver an

even more impactful experience.

With the animal feed processing equipment market projected to grow to US\$ 34.8 billion by 2033, boasting a CAGR of 4.2%, the significance of this event continues to grow. The Asia Pacific region, in particular, stands on the brink of transformation, driven by rapid economic expansion and urbanisation, making it a pivotal market for industry stakeholders.

The 2024 edition of VICTAM will focus on themes such as advancements in feed milling technology, the evolving aquafeed sector in Asia, and the latest in grain, flour, and rice processing technologies, coupled with essential sustainability initiatives.

In conjunction with VICTAM Asia, Health & Nutrition Asia is coordinated by the VIV worldwide team. This event provides a comprehensive overview of innovation in nutrition, pharmaceuticals, and cutting

edge animal health solutions. The synergy between these two events offers an all-encompassing perspective of the industry, serving as an exceptional trading platform for professionals in animal nutrition, pharmaceuticals, genetics, and related fields.

This event presents a prime opportunity to connect with leaders in Asia's burgeoning animal feed sector, as well as the rice and grain milling industries. Visitors can engage with innovators, glean insights from global frontrunners, and stay abreast of emerging trends in Asia's swiftly expanding animal feed and health sector. Additionally, they can benefit from the wealth of knowledge shared during the concurrent conferences and technical seminars.

VICTAM Asia and Health & Nutrition Asia 2024 are being organised at BITEC Exhibition Center in Bangkok from 12th to 14th March.

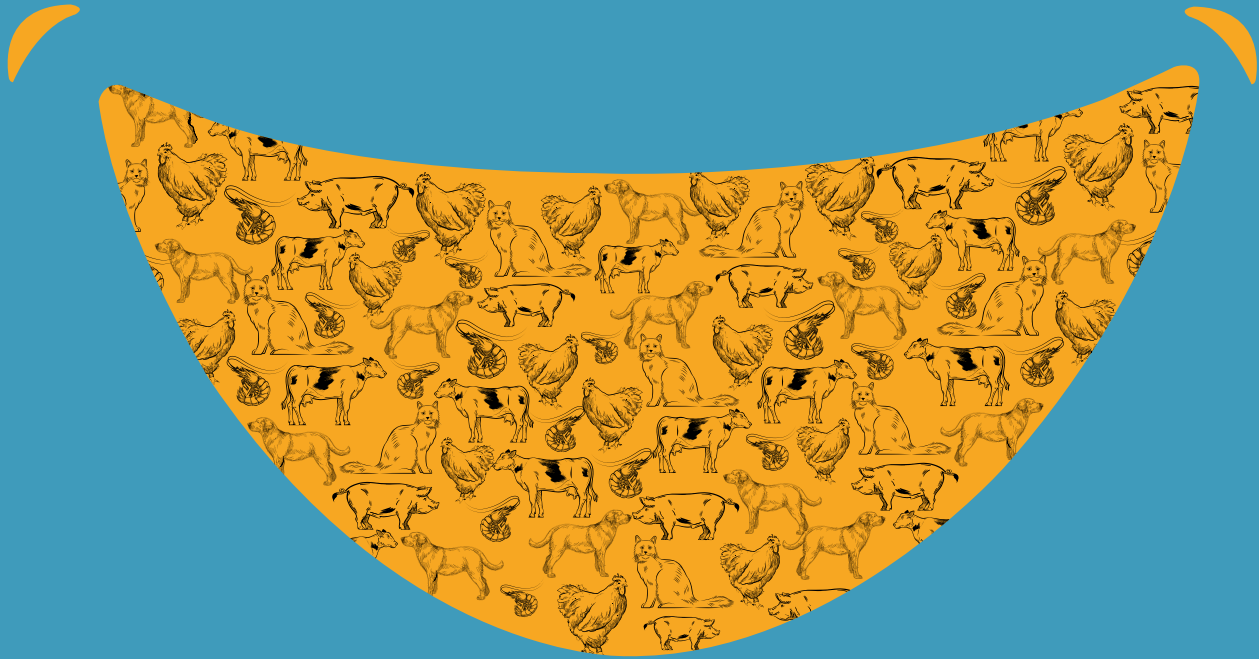


22 R.N.Mukherjee Road, Kolkata - 700001

 www.senindia.co.in  mail@senindia.co.in  (033)40070525

immeureka

The art of science



A young company envisioned by the industry experts with the collective experience of several decades. Our aim is to dive deep into research and offer all the stakeholders in the animal health industry with state-of-the-art nutrition & immunology solutions.

WE AIM TO



Bring tech driven initiative in India



Leverage the fact that foreign investments are being encouraged in India



Benchmark product quality for Indian and global markets



Develop new generation vaccines and bio-similars.

Get in touch with us today to make it big in the animal health industry



ButyESTER™

Advance



GEH Technology

Target Release

High Mechanism of Action



OPTIMA LIFE SCIENCES PVT. LTD.

PNO 47/2/2, BL 44, LIC Colony, Parvati, Pune - 411009, Maharashtra.

Tel: +91 8380012872, 020-24420720 | info@optimalife.in | www.optimalife.in

Follow Us On

