





- DL-Methionine
- L-Lysine Hcl
- L-Threonine
- L-Tryptophan
- L-Valine

AMINO ACID

SUPPLEMENT

FEED

MEALS

- L-Isoleucine
- Choline Chloride (CCL) Liquid 75% /Powder 60%
- Toxin Binder
- Betain Hcl
- Acidifier
- Phytase
- Multienzyme
- Electrolyte
- Soyabean Meal
- Fish Meal
- Rapeseed Meal
- MBM (Meat Bone Meal)
- Rice DOC



- BULK PRODUCTS
- Di Calcium Phosphate (DCP)
- Monocalcium Phosphate (MCP)
- Sodium Bicarbonate
- Premix (Layer)
- Premix (Broiler)
- Chlortetracycline (CTC)
- Tylosin Phosphate 10%
- Tiamulin10,45,80%
- Vitamin A,C,E,K3,D3,B3,B4





■ sales@promoisinternationallt.com www.promoisinternational.com





MONTHLY POULTRY MAGAZINE

VOL. XXI

No. 12 June 2023

EDITORIAL BOARD

M.K.Vyas Chief Editor Dr. M.A. Mujeeb Ather, Dr. S.V. Rama Rao D. Chandra Sekaran Dr. V. Ramsubba Reddy

Publisher : SUGANDHA VYAS

Editorial & Regd. Office **HIND PUBLICATIONS**

204, Plot No. 19, Huda Complex, Saroor Nagar, Hyderabad - 500 035. Telangana. INDIA Phone : 040-40212359 Mobile : 093913 78805 093470 28641

E-mail : hindpoultry@hotmail.com

Website : www.hindpoultry.com

YEARLY SUBSCRIPTION ÷. India Rs. 500/-**OTHER COUNTRY : \$ 60 or Equivalent**

Edited, Printed, Published and owned by M.K. Vyas and Published from # 204, Plot No. 19, Huda Complex, Saroor Nagar, Hyderabad - 500 035. INDIA.

Design and Typesetting Akshaya Graphics, Hyderabad.

Printed at Akruti Offset Printers, Hyderabad.

A Magazine of HIND PUBLICATIONS

RNI No. 7030/2002 Subject to Hyderabad Jurisdiction

PROMOIS IPOMOUC	Amantro _{Agro}	Receivert
7991715797	8853455127	9369832334
THE REST IN ASYMAL HEALTHCARE	Venky's	VENKATESHWARA B.V. BIOCORP
020-25448834	020-25448834	020-25448834
MAR SHARE		NOVUS
020-25448834	8090693995	9986957173
Zenex	Aviagen	HUVEPHARMA
7228846450	04252-233650	9881133755
vaksind	C trouw nutrition	INTERFACE PHARMACEUTICALS PYT. LTD.
8600185552	8600762228	11-40047455
Srinivasa® Farms	SAI KRISHNA PLASTIC INDUSTRIES Manufatherer of Henry Income	Dhopeshwar
040-23633500	9849059508	9391058963
RRVHC	Agrotech vier reference and the	POULTRY
9490410562	9650559095	9490612032
SRAVIOZA Biotech	Organizer: Marsier Marsier Part Lan Courpose Part 200 Marsier Part 200 Marsier M	SPACE 2023
7300303154	9502159098	9502159098
EDT FULFICES	POULTRY ASIA @2020 B& 07 DB SFFERER 2023 Filter 10 Control of the Control of the	褑 हिंद पोल्ट्री
0502150009	9502159098	www.hindpoultry.com

ADVERTISEMENT INTERACTION SECTION

Hyderabad, June 2023



CONTENTS HIND POULTRY JUNE 2023



Aviagen India Technical Seminar Features Knowledge Exchange, Chicken feed made of food waste could slash costs and emissions 08 New IEC Egg Innovation Award will recognise exceptional efforts to add value to eggs 10 Poultry sector in India, witnessing a robust growth13 Philippines Poultry Show & ILDEX Philippines 202317 Poultry Production in India21 Celebrating 60 Years of Breeding Success Together at 2023 Aviagen North America ... 24 Adverse effects of Mycotoxins in animals and Holistic Mycotoxin Risk . 29 World Environment Day 2023......35 Intelligent Nutrition Comes to the Animal Protein Industry37 How to Eat to Nourish People while Protecting the Planet 49

Visit : www.hindpoultry.com







Aviagen India Technical Seminar Features Knowledge Exchange, Camaraderie

..........

The Aviagen® India Sales andCustomer Service team was pleased to welcome managing directors, farm and hatchery managers and nutritionists from poultry businesses



throughout India to their Technical Seminar on April 28. The goal was to provide timely and practical knowledge to strengthen the productivity and welfare of Ross[®] 308 AP broilers and breeders. The popularity of this remarkable Ross bird continues to soar, as more and more farmers in India come to experience its superior feed efficiency, performance, robustness and other numerous other advantages that bring value to their businesses.

Held in Coimbatore, the seminar saw a full lineup of global experts from Aviagen, academia and the poultry industry, who were eager to share their insight with their guests. Dr. Joshua Tangaraj, Regional Technical Service Manager, Aviagen India, kicked off the meeting, and Ferry Monné, Aviagen India's Head of Sales and Marketing provided the closing notes. Topics and speakers included:

- Respiratory disease and IBH challenges and control, presented by Dr. Ganapathi Kannan, lecturer on avian infectious diseases at the University of Liverpool, England
- Ventilation essentials presented by Bernard Green, Aviagen Asia Ventilation Technical Manager
- Nutrition and feeding strategies by Dr. Marcelo Silva, Head of Global Nutrition Services, Asia
- Summer hatchery management strategies by Joe Maria, Hatchery Manager, Aviagen India

• Importance of "soft skills" in professional and personal life by Dr. G. Gopal Reddy, an independent consultant.

India Business Manager Marc Scott expressed his gratitude to the Coimbatore seminar attendees.

"Aviagen values every opportunity to meet with our esteemed customers, strengthening our common bonds. We firmly believe that sharing the latest breeding and market developments serves to advance their businesses along with their ability to provide a nutritious and affordable food source to families throughout our country and beyond for years to come." Since 1923, Aviagen[®] has been a preferred global poultry breeding company with a mission to help its customers - the world's chicken meat producers – supply sustainable, affordable and nutritious protein to their growing communities. Putting into practice its corporate value of "Breeding for Welfare and Sustainability," Aviagen implements efficiencies that make commercial chicken production environmentally and socially responsible and economically beneficial to producers, while at the same time promoting bird performance, health and welfare. To meet varied market demands, Aviagen offers a full portfolio of breeding stock under the Arbor Acres[®], Indian River[®] and Ross[®] brand names. The Rowan Range[®] and Specialty Males[®] target slower-growing and other niche market needs. Aviagen is based in Huntsville, Alabama, US., with operations across the UK, Europe, Turkey, Latin America, India, Australia, New Zealand, Africa and the US, and joint ventures in Asia. The company employs close to 8,000 people, and serves customers in 100 countries. 🔒

SUCCESS Breeds SUCCESS **ROSS 308 AP** DELIVERS FOR

ASHU BREEDING FARM

"For Ashu Breeding Farm, the proof is in the results, and the Ross® 308 AP comes through for us each time. The support from Aviagen India, and hard work of our own team, helps us maximize the excellent genetics."

MR. MOHAN GADA Managing Director of Ashu Breeding Farm

ASHU BREEDING FARM We focus on business sustainability goals by supplying the best-quality products to our customers.

SUCCESSFUL FARMERS in India CHOOSE the Ross 308 AP for:

- 1.5 to 2 points of FCR improvement annually
- Average 10 15 more chicks per hen than the competition
- High meat yield and excellent meat quality

To learn more, visit our website at https://ap.aviagen.com or follow the QR Code below.



Aviagen India Poultry **Breeding Company Private Limited** +91 4252 233 650 info@aviagen.com www.aviagen.com





Poultry Prices shoot up in Jammu and Kashmir

There appears to be little relief for consumers on the ground despite officials' claims that they have taken action against poultry sellers selling chicken at exorbitant prices. The high cost of poultry is being lamented by shoppers all around Srinagar, who say it is hurting their finances. The government set the price of chicken at 130 rupees a kilogram, but the consumers claim that the sellers are selling chicken at a much higher price than the government-approved rate list. The chicken is being sold for Rs 160 per kilogramme in the heart of Srinagar, while it is being sold at Rs 165 per kilogramme in the outskirts. "Daily, there are arguments on rates at the chicken shops as there is no check. The authorities say that they have increased market checking, but still, poultry sellers are taking us for a ride. How can a poor person afford to have poultry when rates are skyrocketing? As there is no check in our area . we are buying chicken at 165 Rs, which is Rs 35 higher than government rates," The locals said that if strict measures were put in place, they would not have to go through inconvenience. Over a month back, following the series of stories by this newspaper on the issue, the FCS&CA department said that they will increase the market checking on the ground. The department said that three teams were on the ground to check the issue. However, the consumers said that the market checking has stopped post-Ramadan and the same is creating issues for consumers. Director of Food, Civil Supplies, and Consumer Affairs, Abdul Salaam Mir said that they will direct the enforcement teams to crack down on the shopkeepers violating the government-designated rate list. 🔒

Chicken feed made of food waste could slash costs and emissions

New research from Australia's University of New England (UNE) has revealed that using food waste to create commercial chicken feed would not only save the Australian poultry industry an estimated \$500 million a year, but it could reduce the country's total greenhouse gas emissions by at least five%.



In collaboration with Food Recycle Ltd. and Poultry Hub Australia, a team of UNE researchers, led by Postdoctoral Research Fellows Dr. Amy Moss and Dr. Thi Hiep Dao, studied the impacts of feeding hens a waste-based diet using discarded food scraps from businesses such as breweries, hospitals, nursing homes, and hospitality venues. Their paper is published in the journal Scientific Reports. Using a patented production process owned by Food Recycle Ltd., the waste was converted to a granular powder that was suitable to be fed to poultry. After rigorous testing, the researchers found that egg quality remained high and did not impact the health or welfare of the animals. Dr. Dao said a switch to waste-based chicken feed at a commercial level could have several positive impacts for both the environment and the hip pocket. The increasing cost of commodities, such as soybean meal, paired with the increasing demand for low-carbon poultry products, has put immense pressure on the poultry industry to explore alternative feed ingredients," she said. Recycling food waste into poultry feed will help farmers to save on feed costs, generate significant improvements in feed efficiency, reduce the environmental impact of poultry production and assist the Australian poultry industry to meet the growing demand for more sustainable and low-carbon poultry production."

In Australia, about 65% of poultry production costs are spent on feed, while it's estimated that 7.3 million tons of food ends up in landfill each year. Diverting this waste into a cheap and sustainable feed option is expected to lower greenhouse gas emissions created from producing eggs and chicken meat by 76% and 25% respectively. Financially, the low cost of commercial waste, paired with the fact that it can be sourced locally, would have the potential to slash feed costs by half. Because of these benefits, it is hoped that the patented technology used to produce waste-based feed will be adopted widely within the next five years. Chief Executive Officer of Food Recycle Ltd., Norm Boyle, said there are big plans on the horizon. "Food Recycle Ltd. has appointed OzHarvest Ventures as the Australian & New Zealand Technology Licensee to exploit the patented and patentpending technology, and they are currently raising \$20 million in capital to build the first production facility for Australia to be located in Sydney." "Meanwhile, Food Recycle International Ltd. is working in more than 20 countries to introduce the technology globally. We anticipate that within five years, recycled food waste feed will be the go-to solution globally for the poultry, pig and aquaculture industries. 👔



Get That Good Feeling



 \checkmark We understand that 70% of production comes from the animal diet and that is why it is important to make sure that the gut is in a well-balanced state, ready to combat pathogens and ensure maximum growth.

PROVENIA is a coated blend of organic acids which is formulated to effectively reduce pathogenic bacteria and manufactured using a patented embedded matrix technology to make sure that the acids are released at the right place and right time inside the gut. This helps promote a balanced microbiota to provide good gut health and costeffective performance enhancer.

AVIMATRIX is now PROVENIA www.novusint.com



BOOKS FOR SALE



Rs. 260/-



Rs. 325/-





Rs. 185/-

HIND PUBLICATIONS

204, Plot No 19, HUDA Complex, Saroor Nagar, Hyderabad - 500035 +91-9391378805 +91-9502159098 : www.hindpoultry.com : hindpoultry@hotmail.com * Postal Charges Rs. 40I- book Extra * Postage of more than 4 books is Free

New IEC Egg Innovation Award will recognise exceptional efforts to add value to eggs

he International Egg Commission (IEC) has launched the Vision 365 Egg Innovation Award to recognise organisations who push the boundaries to create innovative food products that add value to eggs. Entries for the new international award are now open toany food product where the main focus is natural hen eggs, and the introduction of new



ideas or alternative interpretation of an original product is demonstrated.

Launching the award during the IEC Business Conference in Barcelona, Vision 365 Chairman, Suresh Chitturi, said: "We have a fantastic product which is both nutritious and sustainable to produce, and Vision 365 was established to increase egg consumption globally. One way we can do this is through the development of innovative products which encourage consumers to eat eggs at alternative meal occasions." "I am delighted that the IEC is launching this brand-new award to recognise innovative food products which add value to eggs and support increased egg consumption. This is a fantastic opportunity to raise the profile of your business and promote your product. I look forward to showcasing products which are leading change within our industry." The award will be presented during this year's IEC Global Leadership Conference in Lake Louise on 24-28 September. To enter, the IEC are asking organisations to share a link to their product website for the judge's consideration, by Friday 11 August. Established in 1964, the International Egg Commission (IEC) is a not-for-profit organisation that represents the egg industry internationally; it has members in around 80 different countries. Its members include national egg associations, egg farmers, egg graders and processors around the world. Part of the role of the IEC is to provide information to assist with national and international decisions and policy making, it does this through its membership, its publications, and liaison with other international organisations, including; World Organisation for Animal Health (WOAH), World Health Organization (WHO), Consumer Goods Forum (CGF), and the United Nations' Food and Agriculture Organization (FAO). Vision 365 is a 10-year plan launched by the IEC that intends to develop the nutritional reputation of the egg on a global scale in order to unlock its full potential. The project will facilitate a vibrant and growing movement with the new award anticipated to be a key component for its success. Each year, the IEC celebrates the outstanding achievements of organisations and individuals from within the egg industry with various, prestigious awards, including the Denis Wellstead Award for 'International Egg Person of the Year', the Clive Frampton Egg Products Company of the Year Award and the Golden Egg Award for Marketing Excellence. 🔒

SWISS ANTIBIOTICS & PREMIXES

JWIZZ CHEMIE

- Layer / Broiler Vitamins & Other Premix
- Amoxicillin
- Ciprofloxacin
- Doxycycline
- Albendazole
- Fenbendazole
- Lincomycin
- Azithromycin
- Tiamulin 10%/45%/80%
- Oxytetracycline •
- Enrofloxacin
- Tetracycline
- Levofloxacin



VITAMINS

- Vitamin C
- Vitamin A/D3
- Vitamin A
- Vitamin B4
- Vitamin B5
- Vitamin E Vitamin - D
- Vitamin K

AMINO Acids

- DL-Methionine
- L-Threonine
- L-Lysine HCI
- L-Tryptophan
- L-Valine

POULTRY SUPPLEMENTS

- Toxin Binder
- Choline Chloride (CCL)
- Chlortetracycline(CTC)
- Betain HCI
- **Tylosin Phosphate 10%**
- Acidifier
- DCP (Dicalcium Phosphate)
- MCP (Monocalcium Phosphate)
- Sodium Bi Carbonate
- Electrolyte



What app No. : +91 8090693995, +91 7380688804

email : sales@swisschemie.co Website : www.swisschemie.com

Contact Us :



OUR PRODUCT RANGE

- SOYABEAN MEAL
- FISH MEAL
- RAPESEED MEAL
- CALCIUM CARBONATE • MBM (MEAT BONE MEAL) • RICE DOC
- AMINO ACIDS

DL-Methionine, L-Lysine, L-Threonine, L-Tryptophan

• DCP, MCP, SODIUM BI CARBONATE

Animal Feed Supplements DRIED & HOMOGENISED

Call : 8853455127, 7318153787

Real Amantroagro017@gmail.com

www.amantroagroproducts.co.in

(*****)





The allied sectors of Indian agriculture - livestock,

poultry and & aquaculture are gradually becoming sectors of buoyant growth and a potential source of better farm incomes. According to the Economic Survey (2022-23), the livestock sector comprising dairy, poultry meat, eggs and fisheries witnessed a Compound Annual Growth Rate (CAGR) of 7.9 per cent during 2014 -15 to 2020-21 and its contribution to total agriculture Gross Value Added (GVA) has increased from 24.3% in 2014-15 to 30.1% in 2020-21.

The growth in India poultry industry is being driven by the rising disposable incomes and change in food habits. The shift from the traditional diet, which relied heavily on pulses, to food products such as meat, eggs, and dairy products to meet the protein requirements is significantly aiding the industry growth. The increasing awareness about health and wellness is further driving the demand for a proteinrich diet. Other factors including rising disposable incomes, expansion in urbanisation, and the growth of the distribution channels are giving a boost to the poultry industry. The expansion in the food services market such as restaurants, fast food joints and food chains, is leading to the rise in consumption of broiler meat and eggs. Both traditional Indian nonvegetarian recipes and fast-food recipes involve the use of broiler meats, as well as eggs, making them a significant part of the cooking. In addition, the growth of the bakery foods market is driving the demand for eggs, an important ingredient in making cakes and other bakery products.

Poultry sector in India, witnessing a robust growth

Ricky Thaper Treasurer, Poultry Federation of India

According to the department of Animal Husbandry and Dairying annual report (2022-23), poultry production in India has taken a quantum leap in the last few decades, emerging from conventional farming practices to commercial production systems with state-of-the-art technological interventions. Broiler meat production in the country is estimated at around 5 million tonne (MT) annually. The broiler meat sector is currently witnessing an annual growth of 6–7% according to trade estimates.

According to an official note, the country's egg production has increased to 126.53 billion in 2021-22. Egg production is currently growing at the rate of 5% per annum. According to data by the Agricultural and Processed Food Products Development Authority (APEDA), the poultry products exports rose almost by 100% to USD 137 million in 2022-23 from USD 71 million in the previous fiscal. India has vast resources of livestock and poultry, which play a vital role in improving the socio-economic conditions of rural masses. As per the 20th Livestock Census, 2019, poultry bird population rose by 17% to 851.81 million poultry in the country from 729.21 million as per the 19th Livestock Census, 2012. According to a report by Expert Market Research (EMR), the Indian poultry market is valued at USD 28.18 billion in 2022. Aided by the increasing popularity of online services and growing online food delivery channels, the market is expected to witness a Compound Annual Growth Rate (CAGR) of 8.1% during 2023-2028 and projected to reach USD 44.97 billion by 2028.

The share of commercial broiler birds in total meat production is around 80-85%. Rest of the 15-20% of the poultry meat production is contributed by backyard poultry. The north-eastern states contribute majorly toward meat production through backyard poultry.

The centre has initiated several programmes aimed at providing financial incentives for setting up poultry units mostly to encourage rural youth. There are several state governments schemes also that provide financial assistance for setting up poultry farms. Asian Development Bank had also earlier provided a loan of \$ 10 million to leading poultry integrators as part of its Sustaining Poultry Farmer Income and Food Security Project in India. To sustain the robust growth achieved in the poultry industry, long term supplies of feed ingredients need to be assured.

Sustained supply of quality feed ingredients in the coming years would be key to avoid volatility in the feed prices. Poultry feed mostly comprises maize (corn) and soya meal and feed price is about 60 – 65% of the total cost of

production of poultry broilers. Any volatility in the poultry feed prices impact the chicken and eggs prices. India requires to increase maize production by 10 million tonnes (MT) over the next five years amid growing demand for ethanol production and to meet demand from the poultry industry, Agriculture Secretary Manoj Ahuja recently said at the 9th India Maize Summit organised by FICCI. As per the agriculture ministry, maize production in the 2022-23 crop year (July-June) is estimated at 34.6 MT. India's maize yield is around 3 tonne per hectare against the global average yield of 5.8 tonne per hectare. The agriculture ministry is aiming to promote maize production through developing high yielding varieties.

Another key challenge is that soybean productivity has largely stagnated in the last few years. While oil extracted from soybean is used as cooking oil and soybean meal is a by-product is a critical component. The feed prices in 2021 touched to Rs.48, 000PMT because of a spike in soybean meal prices due to domestic supply constraints. In August 2021, as an exception due to domestic supply constraint, the government had allowed import of 1.5 million tons of genetically modified (GM) soybean meal to help the poultry industry tide over higher feed prices. Similar initiatives should be taken by the government to allow GM soybean meal imports atleast during non-harvesting or off season in the country. This would ensure stability in prices whenever there is a shortfall in domestic soybean production. Investment in cold chain value chain for the poultry sector need to be taken up so that wet markets are gradually turned into modern retail stores.

Processing and marketing of poultry range from live bird markets to highly sophisticated, fully automated, adhere to International Standards Organization (ISO) certified facilities and ready-to-eat convenience products is the future. Lack or inadequacy of refrigeration is probably the biggest challenge the poultry industry faces. The government must initiate a special scheme for creating more cold chains in the poultry sector similar to the scheme for 'Integrated Cold Chain and Value Addition Infrastructure' being implemented by the Ministry of Food Processing Industries. There has been a gradual shift in demand from live bird to fresh chilled and frozen poultry product market. Although the wet market continues to dominate the poultry industry, there has been a significant increase in e-commerce with the expansion of home delivery of various poultry meats and processed meat.





The powerful probiotic strain screened and isolated from the chicken gut



Zenex AH was formerly Zydus AH



ADDICOO Additives & Cooperation Fortibac®



RESPONSIBLE APPROACH TO GUT HEALTH

Control of intestinal microflora independent of pH

Support for the development and regeneration of the intestinal wall

Reduction of intestinal and systemic inflammation

Better animal performance





Produced by: ADDICOO GROUP s.r.o. Bohdíkovská 2438/7, 787 01 Šumperk **Czech Republic** www.addicoo.com

Marketed in India by AVIOZA Biotech

Enriching Animal Wealth G/15, Neelkanth Udyog Bhavan, Sakinaka Junction, Andheri Kurla Road, Mumbai - 400072 (MH) India Email: contact@raviozabiotech.com

Hyderabad, June 2023

Philippines Poultry Show & ILDEX Philippines 2023: Embarking on a Journey of Innovation and Excellence

ILDEX

HILIPPINES

Philippine

he Philippines Poultry Show & ILDEX Philippines 2023 is opening its doors today, marking the beginning of a momentous event that will showcase the best of the livestock supply chain. "We are thrilled by the success of the first-time show in the Philippines and the overwhelmingly positive feedback from the industry. The partnership between ILDEX Philippines and the Philippine Poultry Show has been truly remarkable. Together, we have created a powerful platform that not only strengthens the show but also benefits the Philippine market in multiple aspects. This collaboration has the potential to reshape the poultry industry, driving innovation, fostering partnerships, and ultimately contributing to the growth and prosperity of the Philippine market." said Mr. Igor Palka, Managing Director of VNU Asia Pacific. "It's very exciting for the Philippines poultry and livestock industry to be part of this globally competitive landscape. This is the opportunity for our stakeholders to become engaged and really take advantage of the technological innovations and advancements as they come and reach our shores. With the promising developments in our national economy, coupled with a growing population. This is our chance to emerge as a stronger, more resilient, more sustainable, and more innovative industry." said Mr. Jose Gerardo Feliciano, Exhibit chairman of Philippine Poultry Show. This show also welcomes industry partners as well as the government federation. Senator Cynthia Villar, chairman of senate committee of Agriculture, delivered inspiring speeches, underscoring the importance of the poultry industry and its impact on the national economy. Mr. Gregorio A. San Diego, jr., Chairman of Philippine Poultry Show who shared valuable insights and perspectives on the industry's future. The Philippines Poultry Show & ILDEX Philippines 2023 is set to be a groundbreaking





event, providing a dynamic platform for knowledge sharing, networking, and business opportunities within the poultry industry. With over 100+ esteemed brands in attendance, the exhibition is ready to showcase the latest innovations and services tailored to meet the needs of livestock stakeholders and farm owners in the Our Philippines. team of professionals will be on hand to guide attendees towards the best solutions to address their farmrelated challenges.

As part of the VIV worldwide portfolio, ILDEX Philippines remains committed to empowering the livestock industry, supporting its growth, and facilitating sustainable development in the Asia region. Through its global reach and expertise, ILDEX Philippines contributes to the overall success and impact of the VIV worldwide platform, solidifying its position as a leading force in the livestock exhibition landscape. Livestock experts and leading exhibitors have consistently affirmed that ILDEX Philippines serves as the premier marketplace and international business platform for the Philippines market, which is emerging as a new investment destination in Asia. 🔒

Check before you cook as Heat takes toll on Poultry

Stretches of hot and uncomfortable weather across Bengal with little respite has made experts raise concerns over the rise in premature poultry deaths during heat wave-like conditions and the



dangers of eating chicken which died from heat stress, possibly responsible for a range of bacterial infections when consumed. The chicken that die from heat stress get rigor mortis much earlier than those which are slaughtered, and as a result they start to decompose faster. People who have them are more vulnerable to bacterial infections like Salmonella and E Coli," said Shambo Samrat Samajdar, clinical pharmacologist. Samajdarwarned that cuisines which serve cold cut meats are the most susceptible to bacterial illnesses.

Samajdar added, "Unfortunately, the poultry industry is not regulated enough to ensure the immediate refrigeration of the chicken that died of heat stress, at temperatures of minus 20°C." Most sellers do not find it costeffective. The standard practice will be to separate and discard chicken which died from heat stress from the live ones," said general secretary of the West Bengal Poultry Federation Madan Maity.

Poultry seller Ranjit Haldar said, "When we notice that a chicken has died of stroke, we have to cut it up within 30 minutes to ensure it is fit for consumption. After 30 minutes, we have no choice but to dispose of it. We try our best to keep the poultry cool and hydrated to prevent deaths as much as possible in summer." Since it is difficult to identify the cause of the death of pre-cut chicken sold in retail markets, experts urge consumers to store, prepare and cook chicken with much greater caution at times when the maximum temperature is above 37° C. "Boiling or frying the meat properly kills germs to a great extent," Samajdar said.

A Salt Lake resident told TOI earlier in the month that her household was concerned over the peculiar texture and colour of some of the pre-cut unfrozen chicken delivered to her home. While it is impossible to know the cause of death, rapid decomposition of meat prevalent in summer can only be prevented with timely and adequate freezing or refrigeration. Veterinarian TK Mondal said poultry dying from heat stress are observably of poorer quality. Warning signs to look for in a rapidly decomposing chicken is discoloured or grey colour, slimy in texture and has an acidic odour. An additional risk of cooking rotting meat is bacterial contamination of utensils and other foods. Rinsing spreads food-borne bacteria in the kitchen.



Sales@adelbertvegyszerek.com







We are Grateful, All 5 Halls Booked.

for Exhibitors who have missed it:

BOOKINGS ARE OPEN FOR 6TH HALL

(Fill the expression of Interest form, we will contact you soon)

www.poultryindia.co.in/registration-hall-6/



POULTRY INDIA / INDIAN POULTRY EQUIPMENT MANUFACTURERS ASSOCIATION (IPEMA)

Corp. Office: 403, Westend Mall, Road No - 36, Jubilee hills, Hyderabad - 500 033, Telangana, India. ♦ 040-29564413 / 14 / 15 / 7997994331 - 4339 🔀 info@poultryindia.co.in ∯www.poultryindia.co.in



Poultry Production in India

Yashpal Singh, Associate Professor - College of Veterinary Science. Guru Angad Dev Veterinary and Animal Science University, Ludhiana, Punjab, India

The recent annual data shows that India ranks 3rd in the world in egg production and 5th in chicken meat production. The growth rate of the layer market is 6 to 7 percent per annum and broiler market is 8 to 10 percent per annum. Approximately 75 percent of egg production is produced by commercial poultry farms with the remaining percentage coming from household/backyard poultry.

Today units with fewer than 5,000 birds are becoming rare, and units with 10,000 to 50,000 birds per cycle are common. Similarly, in layer farms, units with a flock size of 20,000 to 50,000 birds have become common. Small units or backyard poultry are probably finding themselves at a disadvantage because of high feed and transport costs, expensive vaccines, and veterinary care services along with the non-availability of credit. However it should be noted that the structure of India's poultry industry varies from region to region. While independent and relatively smallscale producers account for the bulk of production, integrated large-scale producers account for a growing share of output in some regions. Integrators include large regional farms that incorporate all aspects of production, including the raising of grandparent and parent flocks, rearing DOCs, contracting production, compounding feed, providing veterinary services, and wholesaling. The southern region account for about 57 percent of the country's egg production, the eastern and central regions of India account for about 17 percent, while the northern and western regions contribute 26 percent of egg production. In addition to modern hybrid layers and broilers, India has a huge (300-500 millions) population of indigenous backyard free range

chickens which is a source of pin money for housewives. The Japanese quail farming is also growing rapidly as an alternative to chicken. Native Ducks and their cross with Khaki Campbell are grown free range in north eastern state and in Kerala, mostly by nomadic tribes.

Historical background

Backyard poultry keeping dates back to the pre-historic period but the modern commercial poultry production in India is barely 50 years old. In the period 1955 to 1965 certain Christian missionaries imported White Leghorn, Rhode Island Red and White Rock breeds to upgrade the local chicken, due to their high brooding and high disease resistant characteristics. Later hybrid broiler (Arbor Acres) and layer (Babcock) strains were brought to India in early seventies to start the era of modern poultry. Amongst the two, the layer strains took wings early and showed a spectacular growth rate between 1970 to 1985. Other hybrids like Bovans, Hisex, Hyline, Keystone and Lohmann were introduced into the Indian Market for the production of white shelled eggs. Native chicken and crossbreeds developed bv Agricultural and Veterinary Universities produces brown shelled eggs which constitute around 18% of the total eggs produced in India. The broiler industry came to existence around 1974 with the imports of Arbor Acres and Cobb broiler G.P stock and later on other hybrids such as Hubbard, Hybro, Marshall and Ross hybrid G.P stock were introduced. Around 18% of the broiler market in India is made up



of indigenously developed crossbred coloured broilers and local free range birds.

Native chicken breeds of India

A total of sixteen native chicken breeds have been recognized and registered as indigenous breeds of chicken in India. Among them, the most popular breeds are Aseel, Kadaknath, Nicobari etc. Some of the native chicken breeds of India are under threat of extinction due to various factors including incidence of diseases and other re-emerging diseases. Furthermore, introduction of exotic/improved chromosomes is diluting or eroding the genetic base of native chickens. So conservation of native breeds is a top priority for the Indian government if they wish to protect the livelihood of rural (backyard) poultry production.

Current scenario

The recent annual data shows that India ranks 3rd in the world in egg production and 5th in chicken meat production. The growth rate of the layer market is 6 to 7 percent per annum and broiler market is 8 to 10 percent per annum. Approximately 75 percent of egg production is produced by commercial poultry farms with the remaining percentage coming from household/backyard poultry.

Challenges

In recent times, in spite of rapid growth, the poultry industry suffered many setbacks due to rising feed costs, emergence of new or the re-emerging of existing diseases, fluctuating market price of eggs and broilers, etc. Among the matters which need to be addressed in order to make the poultry sector a sustainable enterprise are: The lack of basic infrastructure regarding storage and transportation, including a cold chain network.

An inefficient marketing system.

The price and availability of feed resources. Emerging and reemerging diseases of poultry, mutations in viral genomes leading to new variants of viruses developing resistance to vaccines and antibiotics. Issues relating to animal welfare and environmental pollution in poultry units have been of increasing concern recently. India is focusing on "Development" i.e. Good Food, Better Health & Living conditions for its 1.25 billion people and poultry production and consumption patterns in India foresee its further expansion and industrialization. Adoption of small scale poultry farming in backyards of rural households will enhance the nutritional and economic status of the rural people. Large commercial layer and broiler industries with the advent of knowledge, sustainability and profitability can lead to a bright future for the poultry industry.

BOOKS FOR SALE



Rs. 750/-



Rs. 1800/-



Rs. 550/-HIND PUBLICATIONS 204, Plot No 19, HUDA Complex, Saroor Nagar, Hyderabad - 500035 (+91-9391378805 +91-9502159098 www.hindpoultry.com * Postal Charges Rs. 40/- Extra for each book * Postal Charges Rs. 40/- Extra for each book * Postal Charges Rs. 40/- Extra for each book





- * Local Breeding Program
- * Maximum No. of Saleable Eggs
- * Ability to Recover From Diseases
- Lowest Feed Per Egg
- **Superior Livability** *
- Unmatched Technical Services

Young Flock Performances

Our Chicks Practically Pays for Itself by 20th Week

	Name of the Farm	State	Week hit 90% Production		Name of the Farm	State	Week hit 90% Production
۲	Devisri Prasad P F	Andhra Pradesh	23	•	Venkatarama Poultries Pvt. Ltd.	Andhra Pradesh	
0 0 0 0	Jahnavi P F Sri Surya Narayana P F Ashok Poultries Autocraft Towers Pvt. Ltd.	Andhra Pradesh Karnataka Telangana Uttar Pradesh	24	•	Akkamamba P F Yash P F Kaliyannan P F Anitha P F	Andhra Pradesh Maharashtra Tamil Nadu Tamil Nadu	26
•	Mahida P F Sree Vaishnavi P F Anbu P F	Gujarat Karnataka Tamil Nadu	25	•	SMN P F Laxmi Narasimha P F HK P F	Tamil Nadu Telangana Telangana	
					Vankatasan D F	Tomil Modu	97

ON THE PATH WAY TO MAKE ₹ 150-200 MORE PER BIRD **Ramella Poultry Farm** D.S.P Poultry Farm, Chittoor, A.P Guntur, A.P

Mr. K. Nava Mohan

-	7.51
	121
	14-
	100

Flock Age	•	77 Weeks
Peak Production	:	95%
🥺 Weeks Above 90%	:	38
😣 Hen House Eggs	:	347.60 (356.90
 Cumulative Feed per Egg 	:	128 g
Feed Per Day (Laying Period)	:	110 g
% Achievement of Standard H.H Eggs	:	97%
Feed Cost Per Egg Upto 77 Weeks Age Considering Rs. 26/H	: (G	Rs. 3.32/-

🧐 Flock Age	:	31 Weeks
Peak Production	:	97%
🧐 Weeks Above 90%	:	9 (Still continuing)
Hen House Eggs	:	68.87 (71.20)
Cumulative Feed per Egg	:	119 g
Feed Per Day (Laying Period)	:	91 g
% Achievement of Standard H.H Eggs	•	97%
Feed Cost Per Egg Upto 31 Weeks Age Considering Rs 26/8	:	Rs. 3.09/-

Mr. Shiva Kali Prasad

SrinivasaFarms" (CIN: U01222TG1983PTC003979)

26/05/2023

Celebrating 60 Years of Breeding Success Together at 2023 Aviagen North America Production Management School

viagen[®] North America is excited to welcome students from around the world as they gather for the 2023 Production Management School. From May 28-June 24 in Huntsville, Ala., US, the event will unite 35 students representing 22 different countries in Asia Pacific; Latin America; North America; and Turkey, Middle East and Africa. The program is designed to empower participants with the latest knowledge and best practices in the art of successfully managing breeder and broiler operations. As the North American School commemorates its 60th anniversary, the occasion is further distinguished by some notable "firsts" that promise to make this year's learning journey exceptional.

Initially known as the Arbor Acres Production Management School, the event was first held in 1963 in Connecticut. Since then, it has grown in size and scope, and is now held annually in Huntsville, Alabama. Since its inception, the School has nurtured the growth of over 2,000 students hailing from 100+ countries, all of whom have successfully completed the program. This legacy exemplifies the School's commitment to excellence and its global impact in shaping successful poultry professionals.

The Production Management School stands out due to its holistic approach to poultry science. As the industry's longest-running program of its kind, it offers a comprehensive curriculum covering all aspects of breeder and broiler operations. The curriculum includes seminars, workshops, and field experiences



led by experts who are passionate about helping customers take their expertise to the next level and achieve the most with their Aviagen flocks. Students benefit from the wealth of experience of Aviagen and guest lecturers specialized in veterinary care, nutrition, genetic research development, and production and farm management, hatchery and incubation and more. Participants are able to reinforce classroom theory with hands-on field experiences at breeder and broiler facilities throughout Alabama.

Outside the classroom, students are provided abundant opportunities to become acquainted and form valuable connections. With a diverse array of instructors and attendees, students gain valuable insights from the varied experiences of their international peers. The impact is multiplied as students return to their respective operations, armed with newfound knowledge and insights to share with their colleagues, creating a ripple effect that positively impacts the global poultry industry.

This year the Production Management School returns to inperson instruction for the first time since the COVID pandemic in 2019. Over the past three years, Aviagen transitioned the School online, leveraging innovative technology to pioneer the industry's first virtual Production Management School.

This year's attendees will be the first to experience Aviagen's groundbreaking remote customer system, service featuring augmented-reality smart glasses. The system enables students to virtually tour facilities that were previously closed to visitors due to biosecurity restrictions. Aviagen has recently implemented this technology to bring their specialists directly to customer facilities, providing real-time and immediate assistance to address challenges and offer expert advice to enhance bird performance, efficiency, and welfare. This year, the School's immersive experience is further through enhanced engaging exercises at the Elkmont Veterinary Lab. Additionally, for the very first time, students will have the opportunity to explore the Aviagen feed mill in Pikeville, Tenn., renowned as one of the world's most advanced feed processing facilities.

"Our North America Production Management School continues to push boundaries, embracing technology and providing unparalleled practical experiences to students ensure receive а comprehensive education that empowers them to excel in their roles as industry professionals and leaders," commented Marc de Beer, President Aviagen North America. "As we prepare to welome our exceptional students, we eagerly anticipate the opportunity to foster "breeding success together," forging a path toward a prosperous future."

Animal Feed Supplement





Superior Coccidiosis Control Protecting Health For Animals & Consumers



Uitbreidingstraat 80 • 2600 Antwerp • Belgium P +32 3 288 1849 • F +32 3 289 7845 customerservice@huvepharma.com



www.huvepharma.com

Huvepharma SEA (Pune) Pvt. Ltd. 42, 'Haridwar', Road 2 A/B Kalyani Nagar, Pune 411006, India P +91 20 2665 4193 F +91 20 2665 5973 salesindia@huvepharma.com





For Best Quality Meat with Highest Hygiene

Different capacity Plants 1,000 -16,000 birds/day

For dressed birds - with skin & without skin

Fully Conveyorised Hybrid Conveyor Dressing Equipment Retail dressing Eq.





Fully Conveyorised

< < Container Type Plant

Hot Water Scalder

Plants Exported to 22 countries

26 | HIND POULTRY

SCAN ME

Hyderabad, June 2023





Digestor with hatchery waste loading

Odour control system



Poultry-Waste Rendering Plants

Digester with Odour Control System, **Eliminate Waste Make Profit**

> **Different capacity Plants** from 250-4000 kg/batch

For

Layer/Breeder Manure



estor (Cooker-Homogeniser-Vacuum Dryer)

DHOPESHWAR ENGINEERING PVT LTD An ISO 9001:2015 COMPANY

Mobile : +91 93910 58963, +91 96521 58908 Website: www.dhopeshwar.in Email: sales@dhopeshwar.in

Plants Exported to 22 countries



Visit : www.hindpoultry.com

June 2023 | 27



a Nutreco company

TOXO®-XL

3-D approach for Mycotoxin Risk Management

THE BENEFITS

 \oslash

Reduces mycotoxin bioavailability

(Or

Modulates intestinal barrier function

Reinforces the immune system



Scan the code for latest updates Trouw Nutrition India Pvt. Ltd. L4 04, SLN Terminus, Beside Botanical Garden,

Gachibowli, Hyderabad, Telangana – 500032 T.: +91 40 2988 0258 E.: customercareindia@trouwnutrition.com W.: www.trouwnutrition.in

Hyderabad, June 2023



Dr. Stuti Baruah

trouw nutrition

a Nutreco company

Program Manager – Feed Safety, Trouw Nutrition South Asia

Mycotoxins are secondary metabolites of fungi/mould that cause toxic, noninfectious disease in the animals that ingest them. There are over 200 species of moulds that produce above 600+ mycotoxins, some of which are only synthesised by one organism and some of which are synthesised by many, and therefore have several potential clinical manifestations.

Synthesis of mycotoxins is induced by complex relationships between genetic composition and the environment; therefore, the presence of a specific organism does not confirm the presence of a toxin.

Moulds that can produce mycotoxins grow on numerous crops/food and feedingredients such as maize, bajra, cereals, nuts etc. Mould growth can occur either before harvest or after harvest, during storage, on/in the food itself often under warm, damp, and humid conditions. Climate and environmental factors like drought, frost, hail, rain at harvest, flooding,

weatherchanges, unusual climate patternsinfluence mycotoxin production.

Mycotoxin production in crops depends on planting density, harvesting technique, changes in agricultural practices, susceptible plants varieties, fungicidal agentsand also mould strains. E.g. in substrates like peanuts, rice, sorghum, wheat, corn, strains of Aspergillus parasiticus NRRL 3000 and NRRL 2999 can produce 107, 107, 72, 72, 53 mg/kg (ppm) and 104, 185, 88, 19, 47 mg/kg of aflatoxins respectively. However, the production of aflatoxinsin soya meal is only 19 and 2.8 mg/ kgrespectively. The strain NRRL 3145 produces 8.5,10.6 ,57.6 ,7.10 and 5.5 mg/kg of aflatoxins in peanuts, rice,sorghum,wheat,corn,respectively; but the production of aflatoxins in soya meal is significantly lower ,around 0.06 mg/kg . Therefore, under optimal temperature and *water activity (aW)conditions, mycotoxin production depends on genetic strain and substrate composition.

*Water activity(aW)-Defined as energy status of water

Classification and Characteristics of Mould and Mycotoxins: Moulds and mycotoxins can be field origin, storage origin or both. Mycotoxins areinvisible,odorless, tasteless, heatstable during feed processing, omnipresent in feed ingredients and have major impact on the growth and health of livestock & poultry, fish, shrimp.When it comes to animal health and performance, six mycotoxins have most detrimental effects. These are referred to as



Fig1 - Temperature distribution of various mycotoxins

Big Six namely Aflatoxin, Ochratoxin, Zearalenone, Fumonisins, HT2 and Deoxynivalenol.

They have a wide bandwidth for temperature tolerance and can thrive in extreme temperatures.

Mycotoxins	Type of interaction	References	
Aflatoxin X Ochratoxin A	Synergistic	Huff and Doerr (1981)	
Aflatoxin X DAS	Synergistic	Kubena et al. (1993)	
Aflatoxin X T-2 toxin	Synergistic	Huff et al. (1988)	
Aflatoxin X DON	Additive	Huff et al. (1986)	
Ochratoxin A X T-2 toxin	Additive	Kubena et al. (1989a)	
T-2 toxin X DON	Synergistic	Kubena et al. (1989b)	
T-2 toxin X Fumonisin B ₁	Additive	Kubena et al., 1995	
Fumonisin B ₁ X Moniliformin	Additive	Javed et al., 1993	

Adapted From Chapter 10, Mycotoxin Blue Book, 2005

Some foods and feeds are often contaminated by numerous mycotoxins, but most studies have focused on the occurrence and toxicology of a single mycotoxin. Regulations throughout the world do not consider the combined effects of mycotoxins. However, several surveys have reported the natural co-occurrence of mycotoxins from all over the world. Most of the published data has concerned the major mycotoxins aflatoxins (AFs), ochratoxin A (OTA), zearalenone (ZEA), fumonisins (FUM) and trichothecenes (TCTs), especially deoxynivalenol (DON). Studies of mycotoxin combination toxicity showed antagonist, additive or synergic effects depending on the tested species, cell model or mixture, and were not necessarily time or dosedependent.

Most significant mycotoxins and mycotoxicosis affecting various animals: AMycotoxicosis is a disease caused by ingestion of mycotoxinby animal. There are several factors that can influence the toxicity of mycotoxins in animals.Some of the factors are:

- Animal species and breed.
- Mycotoxin concentration.
- Exposure duration.
- Animals' nutrition and overall health status.
- Age and sex.
- Co contamination with multiple mycotoxins.

Methods of detection of mycotoxins in raw materials and feed:

Determination of mycotoxin levels in various food, feed and feed ingredients is a challenging exercise because of the problems associated with sampling of heterogeneously distributed compounds and the fact that the analytical methods need to have low limits of detection generally in range of mg/kg (ppm) or μ g/kg (ppb) depending upon the mycotoxin being analysed. Analysis at the very low level of detection and quantification requires a very high specificity to avoid analytical interferences and uncertainties. A sustained international effort is being made to develop and improve the methods for detecting and quantifying the mycotoxins.

Current tools: The methods employed for the mycotoxin analysis mostly fall into the general categories of either chromatographic methods or immunological methods. All these analytical methods require solvent extraction of the mycotoxin from the matrix. For chromatographic analysis, the next step involves extract clean-up followed by concentration. Another component of the complexity in mycotoxin analysis is the varied chemical and structural properties of mycotoxins. This makes the requirement of developing specific method for individual mycotoxin. However, this challenge has been successfully overcome using expensive and sophisticated mass spectrometric methods. Hence, when selecting a method for mycotoxin analysis one should consider the purpose for which the results are needed; the matrix to be analysed; the detection limit required and the availability of expertise and infrastructure. Over the years various tools and methods have been developed to detect and estimate the mycotoxin levels.

One such technology that has been standardized and validated by Trouw Nutrition is – Mycomaster. Mycomaster is a rapid, cost effective and easy to use mycotoxin detection system, which can be operated outside the laboratory. The system works on principle of quantitative Lateral flow immuno assay (LFIA) technique. Mycomaster offers an accurate yet easy to use alternative as it enables feed millers and integrators to analyse the mycotoxin levels within matter of minutes at the site itself. Since no laboratory facilities are required, the costs are also only 20-25% of the average price for conventional HPLC testing. Table 1 outlines approximate cost and time requirement for the analysis using different methods.

Table 2. Mycotoxin analysis time and cost comparison

	Mycomaster	ELISA	HPLC	LC-MS
Delivery time for the test	15-20 minutes at site	2-4 days at remote /on-site lab	4-6 days at remote lab	4-6 days at remote lab
Indicative cost per Test	20-25%	About 50%	100%	About 250%

Since mycotoxins are omnipresent and they have significant impact on the livestock and poultry health and performance, it is important to have a holistic management program to mitigate the risks arising from mycotoxins.



MYCOTOXIN RISK MANAGEMENT

1. Risk Identification and Assessment:

Trouw Nutrition globally as well as Trouw Nutrition India regularly screens feed raw materials and finished feeds in Masterlab in Netherlands and Customer Service Lab (CSL) in Jadcherla respectively.





Seasonal Impact On Mycotoxin Concentrations:



Fig 3: Effects of seasons in Aflatoxin prevalence 2022

Mycotoxin concentrations in corn change throughout the year depending on the growing conditions in the field as well as storage conditions. As can be seen in the Fig.9; AF concentrations showed three peaks in the year in the months of February, July, and October. Each one of the mycotoxins showed different peaks indicating the differences in the conditions required for their production. The sizeable quantity of corn produced in 2022 will be used at least until Q1 of 2023 and hence studying such month-to-month variations can provide some tips for effective mycotoxin risk management.

2. Implement Risk Control Measures:

We can summarise the effects of multiple mycotoxins as the following:

- Organ health : Liver, Bursa, Spleen, Testes, kidneys.
- Mycotoxins responsible for Immunosuppression : Animals susceptible to secondary diseases. Inhibitionof immunoglobulin synthesis.
- Mycotoxins responsible for gut health integrity: Necrotic enteritis, Coccidiosis, Gizzard erosion, Wet droppings.

It is important to use a mycotoxin binder to mitigate the effects of the mycotoxins. Adsorbent in mycotoxin binders binds the mycotoxins in the feed strongly enough to prevent the adsorption across the digestive tract of the consuming animal.

This is one aspect of mitigating mycotoxin risk but lacks holistic approach. Trouw Nutrition believes in implementing 3D approach of mitigating mycotoxin risk in animals.

What is 3D approach?

It is an integrated approach which focuses on 3-dimensional aspect(3D). First is the mycotoxin binding, second is Gut wall protection and third is Immune modulation.

- Bentonites (>80 % smectites) ensures more than 90 % binding of polar mycotoxins without binding with minerals and vitamins.
- Gut wall protection: Glucose biopolymers help to reinforce gut integrity and preventing mycotoxins and endotoxins to evade the intestinal barrier into the blood stream.
- Immune suppression: Common effects of mycotoxin in animals.Exposed beta glucans help in immunity by positively compensating macrophage activity, lymphocyte proliferation and vaccine efficacy.

3. Evaluate Effects:

Routine screening of raw materials and finished feeds with available tools, monitoring performance and health records regularly is a comprehensive way to mitigate the risk posed by mycotoxins in animal health and performance.

To summarize, mycotoxins and managing the threats due to mycotoxicosis is complex due to presence of mycotoxins in almost all raw materials and feed. The permissible level guidelines must be met but is not the only criteria to control chronic mycotoxicosis due to synergies and additive effects amongst them. Moreover, there are masked mycotoxins, emerging mycotoxins and new species identified almost every year makes them harder to manage. Holistic approach is the need of the hour - routine screening of raw materials, feed-risk identification and assessment by on spot devices like Mycomaster, Implementation of risk control measures (broad spectrum mycotoxin binder) and Risk control review. 🔒



Subscribe Today

Subscribe for One year and Get Leather Purse Free



PRICING

- Rs. 1,200/- for One Year for Printed Copies through Register Post
- Rs. 500/- for One Year for Digital Copies at your Registered Mail and Whatsapp

PAYMENT

• Cheque in favor of Hind Publications Hyderabad



9391378805

Send the Subscription Detail at :

HIND PUBLICATIONS

204, Plot No. 19, Huda Complex, Saroor Nagar, Hyderabad - 500 035. Telangana. INDIA
Cell : 93913 78805 Whatsapp : 95021 59098
E-mail : hindpoultry@hotmail.com
Website : www.hindpoultry.com



RR VETERINARY HEALTH CARE PVT. LTD.

An ISO 9001:2015 and ISO 22000:2005 Certified Company

4-122/1/1, Plot No. 115 & 123, Kuntloor Village, Abdullapurmet Mandal, R R Dist - 501 505, Telangana, INDIA. Email: info@rrveterinary.in, www.rrveterinary.in, www.rrvhc.in







World Environment Day 2023 Eggs for a Better Earth

Eggs are one of the most nutritious, naturally available food sources. Packed with minerals, vitamins and antioxidants, the egg provides muchneeded nourishment worldwide. However, it is no longer enough to only consider the nutritional value of our diets. Now, more than ever, the responsibility for the care of our planet, as well as our own health, is at the forefront of many people's minds. In that respect, eggs can be considered the perfect ally to a nutritious and environmentally friendly diet – here are a few reasons why:

1. Low environmental impact

Eggs may be small, but their positive environmental impact is mighty! When compared to other popular protein sources, eggs use little water; nuts, for example, require over four times more water to produce per gram of protein.



Research also shows that egg production creates fewer greenhouse gas (GHG) emissions per gram of protein than many other popular protein sources.² This means that incorporating eggs into a balanced diet is incredibly nutritious AND supports the environmental sustainability of our planet.

2. Sustainable food source

It is widely known that eating local, seasonal food is beneficial for our earth. Eggs can be produced all over the world, regardless of the season, playing a role in making this possible!



Recent research endorses the inclusion of eggs in our daily diets as a vital component of a human and planet-friendly lifestyle. The study advocates that adults should consume one egg per day, in order to receive adequate micronutrients for optimal well-being.



Additionally, eggs create minimal kitchen waste, since only the shell is inedible for humans. Fortunately, the discarded shells are compostable, creating nutrient-dense soil for plants. Embrace the extraordinary potential of eggs this World Environment Day with a widely accessible, highly nutritional food source where sustainability takes centre stage.

3. Evolving production practices

Before reaching your plate, sustainability measures for eggs begin at the farm. Egg farmers are taking important steps to minimise their impact by prioritising planet-friendly production with important progress being made around the globe.



Last year, UK supermarket giant, Morrisons, introduced carbon neutral eggs. These eggs come from hens fed a soya-free diet of insects, which were themselves fed on supermarket food waste. This innovative approach eliminates carbon emissions from soya transportation and reduces deforestation caused by soya production. Research by Australian Eggs confirms that insect meal is one of the most viable soya alternatives, offering significant carbon footprint reduction. Thanks to advances in technology our ability to farm sustainably is becoming more widely achievable. An online sustainability tool has been developed for farmers in Canada to encourage further progression in reduced environmental impacts and the adoption of new, planet-friendly technologies. The National Environmental Sustainability and Technology Tool (NESTT) allows egg farmers to measure, monitor and manage the environmental footprint of their farms.

Additionally, a Netherlands-based egg producer has successfully up-scaled their circular model business that focuses on carbon neutrality, animal welfare and feeding laying hens on surplus food. The company's expansion demonstrates the model's profitability and



viability. Thanks to continuous innovation and advancement, egg farmers can ensure their product stays naturally nutritious, while constantly adding to the egg's environmental credentials.

Planet-friendly protein



With their wide-ranging environmental benefits and efficient resource utilisation, eggs represent a conscious choice for individuals committed to a greener future. Choose eggs this World Environment Day, and beyond, to help forge a path towards a nutritious and sustainable tomorrow!



Hyderabad, June 2023

Intelligent Nutrition Comes to the Animal Protein Industry

Novus International, Inc., today announces the beginning of a new area of smarter solutions for farmers around the globe – intelligent nutrition.

The global feed additive company hosted a press conference during the World Pork Expo in Iowa to reveal its comprehensive rebranding initiative. The changes reflect the 32-year-old company's promise to deliver more to its customers and its commitment to providing solutions created through advanced technology, based on global scientific research that goes further to offer unexpected benefits to customers.

"Intelligent nutrition is how we support animal health and performance," says NOVUS SVP and Chief Commercial Officer Ed Galo from the Iowa State Fairgrounds. "Our novel combination of experienced people, insightful perspective, and smarter solutions allows us to put more into everything we create. Because we want to deliver more benefits that deliver more for producers. That's intelligent nutrition."

Under the leadership of President & CEO Dan Meagher, which began in 2020, the company has refocused its attention on where it can best support its customers by addressing challenges and opportunities in production. The NOVUS product portfolio includes solutions to those challenges in the form of amino acids, organic bischelated trace minerals, organic acids, enzymes, and essential oils. NOVUS also leads the way in embedding functional ingredients in through INTERIUS™ grain technology.

Galo says today's NOVUS provides solutions and customerfocused services that are recognized for supporting reproductive performance, structural and gut health, and nutrient utilization; optimizing performance and sustainable protein production. But there's always something more.

"We've experienced significant growth since 1991," he says. "In the last few years, we've honed in on what we can uniquely provide to poultry and livestock producers, nutritionists, feed mills, and distributors around the world – solutions offering something extra. Services and solutions that are made of more."

NOVUS

International launches a modern brand focused on more

Made of More[™], the company's new slogan, represents the focus of all its future endeavors.

"Just as producers are asked to do more with their poultry and livestock – more growth, more efficiency, more yield - our experience and our solutions offer more to help them reach their production goals," says Abishek Shingote, NOVUS associate VP of Global Strategic Marketing – Technology & Innovation.

NOVUS liquid and dry methionine solutions utilize the HMTBa molecule, which is a precursor to L-methionine. Because of this unique molecule, ALIMET® feed supplement, MHA® feed supplement and MFP® feed supplement are nitrogen-free and have properties of an organic acid benefiting overall gut health. Liquid ALIMET® feed supplement requires virtually no handling thanks to the company's automated inventory system for customers (AIMS). HMTBa is also the backbone for MINTREX® bis-chelated trace minerals, highly bioavailable and absorbable organic zinc, copper, and manganese that allow producers to use lower inclusion of minerals in the ration while seeing the same or improved performance and growth. MINTREX® is also a source of methionine through HMTBa. ACTIVATE® nutritional feed acid is made from a blend of organic acids and HMTBa shown to reduce the survivability of certain pathogens in feed.

"These products provide more than what customers have come to expect from traditional organic trace minerals or organic acid solutions," says Shingote.

Just as NOVUS works to do more for its customers, it's also working to offer more to the industry. Galo says new products – created in-house, through partnerships, or via mergers and acquisitions – are on the horizon.

"Innovation remains our core priority. As experts in the global food system, we can see where the animal protein industry is heading and this vision directs how we can help meet regional goals from performance and environmental sustainability to return on investment," he says. "We are driven to create new ideas and technologies that improve the health of animals and animal protein production." Along with the launch at World Pork Expo, the new NOVUS will be on display at the 1st International Livestock, Dairy, Meat Processing and Aquaculture Exposition, June 7-9 in Manila; the 23rd European Symposium on Poultry Nutrition (ESPN), June 21-24 in Italy; and during NOVUS-hosted events throughout the year.

Novus International, Inc. is the intelligent nutrition company. We combine global scientific research with local insights to develop innovative, advanced technology to help protein producers around the world achieve better results. Novus is privately owned by Mitsui & Co., Ltd. and Nippon Soda Co., Ltd. Headquartered in Saint Charles, Missouri, U.S.A. www.novusint.com

NOVUS updated its Mission, Vision, and Values for the first time in 31 years. These changes reflect the company as it stands today and how it will support customers and employees for the future of animal agriculture.

Mission: Our mission is to inspire every animal producer and owner on the planet. As relentless advocates for intelligent nutrition, we deliver advanced technology, rooted in scientific research designed to help their animals reach their full potential.

Vision: We envision a world where every animal can reach its full potential. Driven by our passion for science and our intrinsic innovation, we will transform the animal nutrition industry through the power of intelligent nutrition. Working alongside animal producers and owners around the globe, we will help create a world where we feed solutions instead of treating problems.

dispatch by : **Elizabeth A. Davis** Global Public Relations & Media Specialist





Your Single Stop Source for



Country Representative CPM ASIA

Complete Project management of Turnkey Solutions in the following areas:

- 1. Integrated Feed plants for Poultry, Floating Fish, Sinking Fish, Shrimps, Cattle etc.
- 2. Balance of plant eqpuipments for Pre/Post processing
- Complete Plant Automation Solution, on GATE In to GATE Out concept.
- In-house design and manufacturing of Pre Fabricated steel structures for Plants, Warehouses.



CPM Lineator Technology: Remotely Control the distance between roll and die surface, even when the pellet mill is on. This technology provides swift, accurate and safe roll adjustment, with no downtime , so no production loss.

For Queries Contact



CONTACT TODAY

Plot No. 1161, Hudkeshwar Road, Aashirwad Nagar, Nagpur-440 024. (Maharashtra) Email : teamagrotech@yahoo.com Web : www.teamagrotech.com Call Us - **+91-9650559095**



Poultry Asia is the 1st regional expo focus on poultry integration co- locating with Meat Asia and Pet Asia will showcase more than 300 exhibitors focusing on poultry products and services, technology innovations, farming equipments and animal health. Meat Asia featured exhibitors on processed meat market, organic poultry and livestock products, processed meat machineries/ equipments, packaging and much more. Held alongside is the Pet Asia 2023, which is the gathering hub for retailers, distributors and veterinarians to meet with our pet food manufacturers, pet brand owners, ingredient suppliers, and many more who were seeking for new partners and business opportunities in Asia. Our main programs include the "Smart Farming and the Future of Feed Summit "collaborating with World Poultry Science Association -Malaysia Chapter, Poultry Technology Symposiums, Pet Asia Conference and VIPs Buyers Networking Nite.





2

Complimentary 1 to 1 Online Business Matching Meetings prior the event and during the event.

Poultry Asia is the 1st regional expo focus on poultry integration co-locating with Meat Asia and Pet Asia will showcase more than 300 exhibitors focusing on poultry products and services, technology innovations, farming equipments and animal health.

Network with the key buyers/ decision makers from the Asia's region. Top 20 key 3 buyers will be invited to the show.

4 VIP's networking dinner with Key Buyers

The ONLY "Summit" on Smart Farming and The Future Feed with more than 150 5 attendees -top decision makers, local authorities, panel speakers, farms & animal health expertise.





10th INTERNATIONAL TRADE FAIR FOR POULTRY & TECHNOLOGIES

Reach the world's new markets from your key market Turkey !



THIS FAIR ORGANIZED BY THE APPROVAL OF UNION CHAMBERS AND COMMODITY EXCHANGES OF TURKEY ACCORDING THE LAW NUMBER 5174.

Best Practice Guidance to Reduce Antibiotic Usage in the Poultry Industry

ntimicrobial agents are medicines used to treat infections, particularly bacterial infections. These medicines are essential to protect human and animal health, as well as animal welfare. Excessive or inappropriate use can lead to the emergence of resistant bacteria which do not respond to antibiotic treatment, as seen in recent decades. This phenomenon, called antimicrobial resistance (AMR), poses a threat to disease control throughout the world. For this reason, AMR is a global concern. The responsibility to protect the integrity of antibiotics is shared by those prescribing or using antibiotics in both human and animal health.

The International Poultry Council and its Members are engaged with the OIE and other bodies in tackling antimicrobial resistance in relation to the poultry sector. In the 2017 IPC position on AMR, the Poultry Industry Members committed to adopting management practices that reduce the use of those antimicrobials for which resistance could pose the greatest global risk. The global poultry industry recognised the need to be proactive in its engagement with its stakeholders and to implement practices that advance the 'one health' objectives that lead to healthy people, healthy animals, and a healthy planet.

Antibiotics and Poultry Production

Antibiotics are needed by poultry farmers to treat infections when necessary, to maintain the health and welfare of flocks. The rise of antibiotic-resistant bacterial infections now being experienced in poultry farming across most countries threatens the future of all poultry production. Urgent action is needed by poultry producers and poultry veterinarians to preserve the efficacy of those antibiotics which are critically important for the health and welfare of poultry flocks, and for human health. Current practices on farms must be reappraised and

usage reduced by ensuring antibiotics are used responsibly and only when necessary to prevent a bird health or welfare issue.

Objective of Guidance

The objective of this guidance is to promote best practice and the responsible use of antibiotics in poultry in order to safeguard their efficacy against infectious diseases. This guidance aims to raise awareness of the risk that AMR poses for poultry production, and to change management approaches by encouraging adoption of these practical measures along the production chain. IPC recognises that Member Countries are at different stages of their journey to change antibiotic use in their domestic poultry production and therefore the best practice outlined in this guidance is neither prescriptive nor exhaustive.

Putting in place some fundamental best practices in all stages of poultry production will improve bird health and welfare,

BOOKS FOR SALE



* Postage Free if order is more than 4 books

and flock productivity, and will reduce the need to medicate with antibiotics. However, this is not a race to zero use of all antibiotics. Such a policy would not be sustainable as farmers and veterinarians have a duty of care to prevent pain and suffering in the birds under their management which may entail treatment of infections if they occur.

Stockmanship and Training

The prevention of disease throughout the whole supply chain from breeding to hatching and rearing is crucial in reducing antibiotic usage. Good bird husbandry, or stockmanship, is a key to achieving this.

The three essentials of good stockmanship are:

Knowledge of animal husbandry – staff should have sound knowledge of the biology and husbandry of animals, including how their needs may be best provided for.

Skills in animal husbandry – staff should show demonstrable skills in observation, handling, care and treatment of animals, and problem detection and resolution.

Personal qualities – staff should have qualities such as affinity and empathy with animals along with dedication and patience.

Ensure that all farm and hatchery staff have the necessary skills, training and understanding of how to provide the best needs of the birds along the production chain, and actively promote good management practices. An openness by staff and management to understand, assess and implement

* Postal Charges Rs. 40/- Extra for each book

changes in husbandry practices will reduce the need to medicate with antibiotics whilst maintaining good flock health and welfare.

Flock Health and Welfare Plans

Every farm should implement a plan to proactively manage and improve the health and welfare of the birds under care. The Health and Welfare Plan should:

- Be developed and agreed in consultation with a veterinarian or professionally qualified person.
- Be specific to a farm group of farms under the same company's control
- Be reviewed annually or more frequently in the event of substantial changes to husbandry practices or poor performance of the birds
- Set out health and husbandry measures covering the whole of the production period or year
- Set out an effective vaccination programme against disease which is tailored to the needs of the farm or farms covered by the Plan and record the vaccinations administered
- Be available to all staff who have responsibility for the birds.

Antibiotic Stewardship Principles

The key principles of stewardship should be to Replace, Reduce, and Refine antibiotic usage:

REPLACE – reviewing where and why antibiotics are currently used and replace with interventions such as vaccination, changes to husbandry, improved biosecurity, reduction of stress, control of coccidiosis. Reducing the moisture in the house will result in better litter quality, reduced coccidiosis, better gut health and thereby reduced antibiotic usage.

REDUCE – Reducing the number of birds receiving treatment, through effective monitoring of every crop, by production system (breeder, grower, indoor, free range, organic). An action plan identifying reasonsfor-use for farms using high levels of antibiotic should be put in place to help improve their management structure and reduce their usage.

REFINE – continuously refining existing strategies using usage data collection, new technologies, new vaccines, probiotics, prebiotics etc.

Bird Environment

Creating the right environment for birds throughout the whole production chain is vital in reducing disease challenges and thereby the need to treat the flock.

Reducing antibiotic usage requires healthy stock and starts by sourcing good quality viable chicks from healthy parent source flocks.

- Parent flocks should be free from mycoplasma and salmonella.
- Hatcheries should have in place good hygiene practices to ensure high quality healthy chicks are delivered to the farm.
- Prior to the chicks arriving on the farm, the houses should have been be cleaned and disinfected to prevent the carry-over of any disease between flocks, and the environment in the house prepared to receive the new chicks.

- An all-in all-out system should be practiced. Where this is not possible visit the youngest birds on the site first.
- Records should be kept of every flock, house, farm and should contain information on origin of flock, mortality, daily culls, water intake, feed intake, medicines administered.
- The provision of environmental enrichment such as natural light, perches, straw bales or other pecking objects will encourage bird movement and allow them to exhibit natural behaviour.
- Housing should be effectively ventilated: CO2 levels should not exceed 3000 ppm and ammonia concentration should not exceed 20 ppm.
- The size of the house, management capability, environmental management, litter quality and management, should be considered when setting the stocking density. Overstocking must be avoided to prevent bird welfare issues.

Biosecurity: Internal environment

- Farms should have a robust biosecurity protocol in place to reduce risk of bringing disease into the poultry house.
- Farms should limit people entering the live bird area to essential visitors only.
- A double barrier system on entry in the poultry house is recommended to reduce the risk of staff carrying disease into the house.
- Dedicated farm clothing should be worn on the farm and should not leave the farm.

BOOKS FOR SALE



* Postal Charges Rs. 40/- Extra for each book * Postage Free if order is more than 4 books

- Hand washing/sanitising facilities should be available in every house.
- All equipment should be cleaned and disinfected after each production cycle.

Biosecurity: External environment

- Prevent all non-essential vehicles from entering the biosecure area of the farm site
- All vehicles entering the biosecure area should be disinfected when entering and leaving the poultry farm.
- Access to the live bird areas should be restricted to farm staff and essential visitors only.
- An effective vermin control programme around the perimeter of the poultry house is essential to prevent rodents and other vermin accessing the live bird area.
- Standing pools of water on surfaces around the poultry house should be cleaned up immediately to prevent access by wild waterfowl.
- Litter should be stored under cover to prevent contamination by wild birds and vermin.
- Ensure any feed spills are removed immediately to discourage access by wild birds and vermin.
- Culled birds awaiting disposal should be securely stored and where possible the container should be locked.
- Farm equipment should not be shared between farms to prevent spread of disease between farms.

Hygiene - Houses

- Birds must be provided with clean potable drinking water.
- Drinking water systems should be sanitised after each flock to prevent a build-up of biofilms.
- Header tanks should be cleaned after depletion of each flock.
- Litter should be dry and friable.
- Avoid build-up of moisture underneath nipple drinkers.
- Maintain good litter management around drinkers to prevent pododermatitis.

Hygiene - Hatcheries

High levels of hygiene in the hatchery are hugely important in reducing exposure of the eggs and chicks to bacteria and viruses.

All equipment and surfaces in the hatchery should be thoroughly cleaned and disinfected after every hatch.

Nutrition

- Birds should be provided with optimal nutrition suitable to meet their needs especially in breeding flocks in order to optimise breeder health, chick quality and viability and gut health.
- In all poultry, bodyweights should be monitored to ensure the birds are on target for age and breed.
- Feed should be heat treated in manufacture to kill any pathogens.
- The use of appropriate prebiotics and probiotics should be considered in optimising gut health and nutrition.



Antibiotic Medication

- Responsible use use antibiotics only as necessary to alleviate pain and suffering in consultation with the veterinarian or professionally qualified person.
- Antibiotics should not be used routinely or without proper assessment of disease risk, so as to preserve their efficacy.
- Only use the right medication to the correct dosage to treat a problem.
- All medicine used should be recorded in a farm medicine book and regularly reviewed.
- Businesses should work with farms that are high antibiotic users to understand the reason for use and promote corrective or alternative interventions.
- The OIE List of Veterinary Critically Important Antimicrobials (VCIAs), in particular fluoroquinolones, third and fourth generation cephalosporins, and Veterinary Highly Important Antimicrobials (VHIAs) specifically colistin, are also critically important for human health. For this reason, use of these categories of VCIAs VHIAs is strongly and discouraged in any poultry production.

 Current OIE guidance is that VCIAs and Colistinshould only be used as an absolute last resort, based on results of bacteriological tests, and considered by the veterinarian to be the sole therapeutic choice to alleviate bird pain and suffering.

Growth Promotion

Immediately stop all use of OIE List VCIAs in particular fluoroquinolones, third and fourth generation cephalosporins and VHIAs in particular colistin, for growth promotion.

Phase out use of all other antibiotics for growth promotion, in the absence of official risk analysis.

Data Collection

- On-farm collection of antibiotic usage data is a useful tool to analyse volumes of antibiotics used and sharing comparative data will help drive best practice.
- Quantities of active ingredients (mg/kg), by licensed product type, should entered into a user-friendly spreadsheet on a farm basis.
- The data should be used to review reasons for treatment, and to set achievable target reductions by implementing practical management changes.
- National industry organisations are encouraged to collect, verify and publish actual antibiotic usage data and analysis of data in relation in the number of birds slaughtered. Openness and transparency will help inform all producers, customers and consumers, as well as the regulators. ⁽²⁾





How to Eat to Nourish People while Protecting the Planet

he landmark EAT-Lancet report, published in 2019, laid out how to nourish people and save the planet through a "planetary health diet", consisting mostly of whole plant-based foods. But new research, published today in The Lancet Planetary Health, suggests the planetary health diet does not provide enough essential vitamins and minerals to nourish the global population. This is even more evident when looking at women of reproductive age (15-49 years) who have increased iron requirements due to menstruation. The planetary health diet provides just 55% of recommended iron. The report, landmark EAT-Lancet published in 2019, laid out how to nourish people and save the planet through a "planetary health diet", consisting mostly of whole plant-based foods. But new research, published today in The Lancet Planetary Health, suggests the planetary health diet does not provide enough essential vitamins and minerals to nourish the global population. This is even more evident when looking at women of reproductive age (15-49 years) who have increased iron requirements due to menstruation. The planetary health diet provides just 55%of recommended iron intakes for this population.

Integrated action across society is needed to provide diets with enough vitamins and minerals while protecting the planet.

The research, "Estimated micronutrient shortfalls of the EATplanetary Lancet health diet," reveals important dietary shortfalls in iron, zinc, calcium, and vitamin B12. The researchers used new globally representative food composition data and recommendations on harmonised nutrient intakes, both of which were published after the original EAT-Lancet publication. They also adjusted for how nutrients like iron and zinc are absorbed by the body on different types of diets.

Dr Ty Beal, Research Advisor, GAIN

Dr Ty Beal, Research Advisor at the Global Alliance for Improved Nutrition (GAIN) and lead author on this publication said, "The planetary health diet is likely to help protect against noncommunicable diseases, which are the leading causes of death and disease worldwide, and to do so sustainably. But these new findings on shortfalls in essential and minerals vitamins are concerning because deficiencies in these 'micronutrients' can lead to severe and lasting effects, including compromised immune systems and increased risk for infections; hindered child growth, development, and school performance; and decreased work productivity; all of which ultimately limit human potential."

The planetary health diet does not provide enough essential vitamins and minerals to nourish the global population. © GAIN

The micronutrient shortfalls of the planetary health diet are due to the low amount of animal source foods, which make up just 14% of total calories. To make the planetary health diet adequate in micronutrients would require increasing nutrient-dense animal source foods. In addition, it would require reductions in a compound called phytate, which inhibits absorption of iron, zinc, and calcium. This could be done by reducing the proportion of whole grains, legumes, and nuts - from the baseline planetary health diet, not from current consumption - or, preferably, by reducing the phytate in these foods through crop breeding and processing, including soaking, fermenting, and sprouting.

The planetary health diet is likely to help protect against noncommunicable diseases, which are the leading causes of death and disease worldwide, and to do so sustainably.

Dr Jessica Fanzo, Bloomberg Distinguished Professor of Food Policy, Johns Hopkins University

According to Dr Jessica Fanzo, Bloomberg Distinguished Professor of Food Policy at Johns Hopkins University and co-author, "The challenge in providing enough micronutrients is doing so sustainably. It is not clear exactly how much animal source food, and which types, could be sustainably produced worldwide: experts have different perspectives. But there is a limit. And there will inevitably be trade-offs to grapple with, between human health and environmental sustainability. It is important to use all available approaches to improve diets, including improving diet quality through nutrient-dense foods of both plant and animal origin, and fortification food and supplementation, which have limitations but can help fill micronutrient gaps sustainably and affordably." It is not clear exactly how much animal source food, and which types, could be sustainably produced worldwide: experts have different perspectives. But there is a limit.

What is clear is that a combination of actions is needed to increase access to diverse nutrientdense and healthy foods and supplements. This includes increasing their availability, desirability, convenience, safety and affordability through incentives and subsidies, improving fortification policies and implementation; and improving access to healthcare and supplements.

Dr Mduduzi Mbuya, Director of Knowledge Leadership at GAIN concluded, "Future efforts to propose healthy and sustainable diets must ensure micronutrient adequacy, tailor recommendations according to the local context, equitably involve local stakeholders impacted by any changes, and be transparent about trade-offs. Preserving human health and protecting our planet are more important now than ever. All of society must rise to the challenge, now, to address these integrally

linked and equally important challenges."

Preserving human health and protecting our planet are more important now than ever.

Dr Mduduzi Mbuya, Director of Knowledge Leadership, GAIN

The researchers come from:

- Global Alliance for Improved Nutrition, Washington, DC, USA (T Beal PhD)
- · Global Alliance for Improved Nutrition, Geneva, Switzerland (F Ortenzi MS);
- Bloomberg School of Public Health, Johns Hopkins University, Baltimore, MD, USA (Prof J Fanzo PhD)



www.hindpoultry.com



VAKSINDO ANIMAL HEALTH PVT. LTD. | RESEARCH BASED VACCINES

H No. 8-7-89/C/P-II/125, Ground floor, Chaitanya Nagar, Kharmanghat, Saroor Nagar, Ranga Reddy Hyderabad, Telengana- 500070. Tel: +91 40679 34239 | Web : www.vaksindo.co.id | customercare@vaksindo-india.com



Wide Spectrum Di-polar Adsorbent for Mycotoxins & Pesticides

Bio-BanTox[™] Plus

Unique Advantages:

- Wide spectrum Mycotoxins and Pesticides adsorbent
- Extensively tested invivo and on target organs
- No adsorption of other Nutrients
- Maximises: Feed conversion, Productivity and immune response
- Reduces: Mortality, Secondary problems like bacterial diseases & Vaccine failure



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