

think Grain

Since 2015

think Feed

Monthly Magazine for Feed Industry

Postal No. PKL-212/2024-2026

Volume 12 | Issue 6 | April-2026

RNI No.: HARENG/2014/61357

Price: 75/-

Role of Livestock in Viksit Bharat 2047



Scan to Subscribe



www.benisonmedia.com



**MAX NUTRITION
FOR EVERY RATION.
DON'T ACCEPT
ANYTHING LESS.**

Enzyme Feed Additives

CIBENZA[®]
a NOVUS brand

Availability may
vary by region.

When you need serious solutions to real-world challenges, NOVUS[®] CIBENZA[®] Enzymes deliver results. We take intelligent digestibility to the next level, making it simple to overcome diet challenges and push your animals to reach their full genetic potential. See how professional-grade enzymes can help achieve serious results at novusint.com/enzymes

SHIRKE®

Work Speaks!!!

The Grain Storage Experts



15000 MT
TELENGANA

10000 MT
ANDHRA PRADESH

7500 MT
MAHARASHTRA

5000 MT
MAHARASHTRA

A GRAIN SAVED IS MULTI GRAIN PRODUCED

B.G. SHIRKE CONSTRUCTION TECHNOLOGY PVT. LTD

(POST HARVEST EQUIPMENT DIVISION)

☎ Mob: +91 904 900 4164 | 800 777 0416

✉ Email : vmkadbane@shirke.co.in | smbawane@shirke.co.in 🌐 Website : www.shirkegroup.com



INDIA'S ONLY FEED EXPOSITION

5-7 FEB 2027

PUNE



Organizer



Phone:

+91 98960 35006, 86074 63377

Mail:

feedtechexpo@gmail.com

Address:

BENISON MEDIA
SCO-17, 2nd Floor, Mugal Canal
Karnal-132001, Haryana
+91 184 4047817

Official Magazine

think Gra!n
think Feed

NHU SANDIMET® DLM & MHA

(DL-Methionine & Liquid Methionine)

Better Product, Better Nutrition

Efficient Cost Control

Complete Solutions

Easy Operation

SANDIMET®

生宜美

As a leading global supplier in the animal nutrition industry, NHU consistently upholds its commitment to empowering the industry and making investments. With strong production capabilities and a global marketing network, we offer a reliable supply of high-quality, efficient, and environmentally friendly methionine products in both solid (DLM) and liquid (MHA) forms. Based on this, we provide a comprehensive solution that integrates nutrition, technology, and application services, tailored to meet the diverse needs of our global customers.

Trusted
Quality

Optimizing Health and
Performance for Livestock and Poultry

Follow us on:   

Visit us on: www.cnhu.com

Telephone: 0575-86689260 / +91 97695 81270

Email: Marketing@cnhu.com / umesh@cnhu.com



Exploring Chemistry, Improving Life



Full Line of Grain Handling, Storage and Conditioning Equipment

Chain Conveyors, Bucket Elevators, Distributors, Grain Cannons, Grain Bins, Hopper Bins, Grain Loops, Structures, Milling Accessories, and much more!



Industry-Best Lead Times

With 4-6 week average lead times, we continue to set the industry standard.



Long-Lasting Equipment

Galvanized steel construction ensures a long service life and low maintenance.

DESIGNED FOR YOU. **BUILT FOR YOU.** SINCE 1965.



Seamless Systems Integration

The modular design of our equipment allows it to be seamlessly integrated into your existing system.



Global Presence

We have offices and manufacturing facilities in Canada and India, and equipment running in 50+ countries across the world!



Contact Us

Avra Raychaudhuri - Director of Sales, South Asia
avrar@lambtonconveyor.com - +91-99234-25577

India Office: Lambton Kunstwerk Machinery India Private Ltd, Plot No. 136A2, Harohalli Industrial Area 2nd Phase, Kanakapura, Taluk, Harohalli, Karnataka.

Canada Office: Lambton Conveyor, 102 Arnold St, Wallaceburg, Ontario - www.LambtonConveyor.com - 888-238-9713



Contents



R&D

08 Advancing Fodder Security Through Silage Maize Innovation in India

ARTICLE

10 Transition in Poultry Stress Management: From Traditional Remedies to Chromium-Based Solutions

20 Managing Amino Acid Shortages in Poultry: Practical Strategies for Sustainable Performance

KEY TAKEAWAYS

14 Key Takeaways from Gut Health Forum 2026: Gut to Immunity in Poultry

24 Impact of the West Asia Crisis on the Indian Poultry Sector

COVER STORY

16 Reimagining Rural India: CEAH's Vision for Animal Husbandry in Viksit Bharat

INDUSTRY THOUGHT

23 From Gaps to Growth: The Case for a National Feed Security Roadmap

INTERVIEW

26 From Assumed Nutrition to Measured Precision: The Enzyme Revolution

SUBSCRIPTION INFORMATION:

	Simple Post	Courier	Overseas
One Year	: INR 1200	INR 1800	USD 300
Three Year	: INR 3300	INR 4800	USD 900
Five Year	: INR 5200	INR 6500	USD 1500

Printed by: Jaiswal Printing Press | **Published by:** Prachi Arora | **On behalf of:** BENISON Media | **Printed at:** Chaura Bazar, Karnal-132001, Haryana | **Published at:** SCO-17, 2nd Floor, Mugal Canal Market, Karnal-132001, Haryana | **Editor:** Prachi Arora

Cover Image Source :

Think Grain Think Feed is a monthly magazine published by BENISON Media at its office in Karnal. Editorial policy is independent. Views expressed by authors are not necessarily those held by the editors. The data/information provided in the magazine is sourced through various sources and the publisher considers its sources reliable and verifies as much data as possible. However, the publisher accepts no liability for the material herein and consequently readers using this information do so at their own risk. Although persons and companies mentioned herein are believed to be reputable, neither BENISON Media, nor any of its employees or contributors accept any responsibility whatsoever for such persons' and companies' activities. All legal matters are subjected to Karnal Jurisdiction.

Disclaimer : The published material and images are sourced from various websites and newspapers, and used for information purpose only, if you have any issue, please inform us at info@thinkgrainthinkfeed.co.in. BENISON Media or Think Grain Think Feed is not liable for any claim prior to written information.

Publisher & Editor

Prachi Arora
prachi.a@benisonmedia.com

Managing Editor

Dr T.K. Walli
Former Head,
Dairy Cattle Nutrition, NDRI

Content Manager

Gaurav Chander
g.chander@benisonmedia.com

Subscription Managers

Leena Chauhan
l.chauhan@benisonmedia.com
Shakti Thakur
s.thakur@benisonmedia.com

Designing & Online Marketing Head

Ashwani Verma
info@benisonmedia.com

Published by

BENISON Media: SCO 17, 2nd Floor,
Mugal Canal Market, Karnal - 132001 (Haryana)
Tel: +91 184 4047817
info@benisonmedia.com
www.thinkgrainthinkfeed.co.in
www.benisonmedia.com

EDITORIAL COMMITTEE

Dr Jeetendra Verma

Poultry Expert

Dr Dinesh T. Bhosale

Livestock Expert

Dr S.P. Vinil

Poultry Expert

Mr. Amit Sachdev

Raw Material Expert

Dr P.E. Vijay Anand

Raw Material Expert

Dr Suhas Amrutkar

Dairy Expert

Dr Meeta Punjabi Mehta

Agricultural Economist

Raghavan Sampath Kumar

Commodity Expert

Dr Swamy Haladi

Feed Additive Expert

Dr R Gnana Sekar

Dairy Expert

Dr Suraj Amrutkar

Nutrition Expert

Advancing Fodder Security Through Silage Maize Innovation in India

India's livestock sector continues to grapple with a persistent shortage of quality green fodder, a challenge that directly impacts animal productivity, milk yield, and overall farm profitability. Recent discussions among agricultural experts and researchers in Ludhiana have brought renewed focus to silage maize as a sustainable and scalable solution to bridge this gap. With increasing pressure on land resources and the growing demand for high-quality feed, the need for efficient, year-round fodder systems has become more critical than ever.

Silage maize, produced through the controlled fermentation of high-moisture maize harvested at the right stage, is gaining prominence as a reliable alternative to conventional fodder. Its ability to ensure consistent nutrient supply during lean periods, coupled with improved digestibility and energy availability, makes it particularly valuable for high-performing dairy and livestock systems. Moreover, its adaptability across diverse agro-climatic regions positions it as a climate-resilient feed option capable

of stabilizing fodder availability in the face of seasonal and environmental variability.

Ongoing research and development efforts are focused on enhancing the potential of silage maize through the development of region-specific hybrids, improved agronomic practices, and the use of microbial inoculants to optimize fermentation and nutrient preservation. These advancements aim to maximize dry matter yield and nutritional efficiency, aligning fodder production more closely with the evolving demands of modern livestock farming.

Beyond on-farm benefits, silage maize is also reshaping the broader feed value chain. The emergence of organized production models—supported by farmer producer organizations (FPOs), dairy cooperatives, and agri-entrepreneurs—is enabling decentralized silage production and creating new income opportunities for farmers. This integrated approach not only strengthens the linkage between crop and livestock systems but also contributes

to improved resource utilization and economic resilience in rural areas.

From a sustainability perspective, silage maize offers multiple advantages, including better land-use efficiency, reduced reliance on traditional fodder sources, and the potential to enhance soil health through improved crop rotations. Its shorter crop cycle and higher biomass output further contribute to improved economic returns, making it an attractive option for progressive farmers.

While the potential of silage maize is widely acknowledged, scaling its adoption will require continued policy support, targeted extension services, and increased awareness at the grassroots level. Capacity-building initiatives and field demonstrations will play a crucial role in driving acceptance and ensuring that farmers can fully leverage the benefits of this technology. As research and industry efforts converge, silage maize is poised to become a key pillar in strengthening India's fodder security and advancing a more resilient and productive livestock sector.

Food and Agriculture Organization of the United Nations

SAVE THE DATE AND REGISTER

Knowledge dissemination dialogues on AMR

Surveillance of antimicrobials residues in animal source food and feed: ensuring safe and quality feed and food production in Ethiopia

RENOFARM Webinar series | 28 April 2026 | 9:30–10:30 CEST

Transition in Poultry Stress Management: From Traditional Remedies to Chromium-Based Solutions

by **Midhun Raj** and **Gustav Vengra**, Kemin Industries South Asia

Introduction

Stress management in poultry has long relied on conventional practices, such as vitamin C supplementation, electrolyte supplementation, and environmental modifications, to address challenges like heat stress. While these methods have provided relief, the evolving realities of modern poultry farming, marked by complex stressors including disease pressure, oxidative damage, nutritional imbalances, and environmental fluctuations, demand a more comprehensive approach. A significant transition in this field is the adoption of chromium supplementation, either independently or in synergy with vitamin C, to address stress at its root cause.

The Impact of Heat Stress

Heat stress remains one of the most critical challenges in poultry production. Elevated temperatures trigger physiological changes such as:

- Reduced feed intake and growth rate
- Decline in eggshell quality and egg production
- Increased mortality
- Elevated blood corticosterone levels

These changes compromise immunity, impair glucose uptake due to insulin insensitivity, and accelerate muscle breakdown through gluconeogenesis. The result is a cascade of metabolic dysfunctions that traditional remedies alone cannot fully correct.

Why a Modern, Root-Cause Approach is Necessary

Traditional strategies—electrolytes, vitamin C, and ventilation—remain essential but insufficient. Today's poultry industry faces multifactorial stressors:

1. **Increased Metabolic Demands:** Modern broilers and layers have higher metabolic rates, leading to oxidative stress.
2. **Environmental Challenges:** Overcrowding, ammonia buildup, and fluctuating temperatures intensify stress.
3. **Disease Pressure:** Antibiotic resistance and emerging pathogens compromise immunity.
4. **Market Demands:** Producers must balance productivity with biosecurity, nutritional consistency, and raw material challenges.



Midhun Raj

These realities necessitate a shift from isolated solutions to integrated, root-cause interventions.

Chromium: The Cornerstone of Modern Stress Management

Chromium, a vital trace mineral, enhances insulin action and regulates glucose metabolism. Under stress, corticosterone levels rise, leading to hyperglycemia and inefficient glucose utilization. Chromium supplementation improves insulin sensitivity, stabilizes blood glucose, and reduces oxidative stress by boosting antioxidant enzyme activity. Figure 1 illustrates the role of chromium in enhancing insulin action and glucose uptake at the cellular level.

Key Research Highlights

- Chromium is essential for carbohydrate, fat, and protein metabolism (Anderson, 1987).
- As part of the Glucose Tolerance Factor (Mertz, 1993), chromium potentiates insulin action.
- Organic chromium supplementation reduces

Fig. 1: Role of Chromium in Enhancing Insulin Action and Glucose Uptake (IMG-KAI-01032)



heterophil-to-lymphocyte ratios, a stress marker, in heat-stressed chicks (Bahrami et al., 2012).

- Serum IgG levels improve with chromium supplementation, enhancing immunity (Toghyani et al., 2007).

Chromium Propionate: Addressing the Root Cause

Chromium propionate, a biologically active form of trivalent chromium, directly counters stress by:

- Reducing corticosterone levels
- Enhancing insulin action
- Accelerating glucose clearance
- Improving energy availability, feed intake, and immunity.

Field data shows up to 40% reduction in corticosterone (Fig. 3) and 45% faster glucose clearance (Fig. 2), directly targeting the metabolic dysfunction behind summer stress.

Why Vitamin C Alone Falls Short?

Vitamin C neutralizes free radicals and supports adrenal function, but it cannot correct:

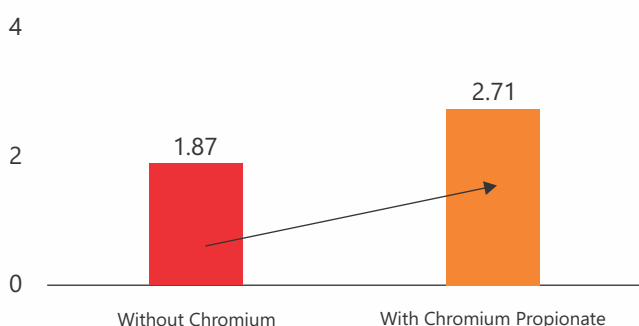
- Corticosterone surges
- Insulin dysfunction
- Impaired glucose uptake

Thus, despite higher inclusion rates, vitamin C alone cannot fully restore performance under heat stress.

Synergistic Action: Chromium and Vitamin C

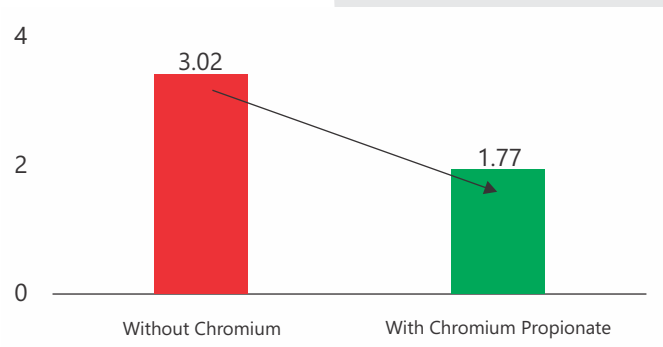
Supplementation through feed with chromium in

Fig. 2: Blood Glucose Clearance (% per min.) (SPRE-23-20885)



Gustav Vengra

Fig. 3: Blood corticosterone (ng/ml) (SPRE-22-2008)



combination with vitamin C demonstrates a positive metabolic shift in birds under stress conditions (Fig. 4). The combination helps maintain stable insulin levels, supports improved glucose utilization (with a reduction in circulating glucose compared to the control), and significantly lowers corticosterone levels (around a 26% reduction vs. the control) (Sahin et al., 2003).

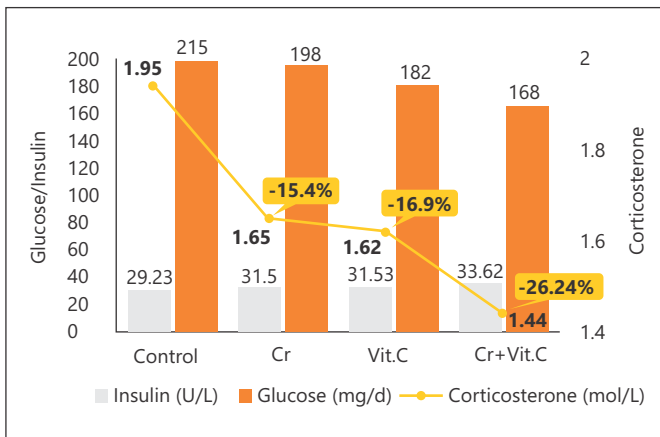
Role of Vitamin E in Poultry

Vitamin E plays a crucial role in summer management of poultry by acting as a powerful antioxidant that protects cells from heat-induced oxidative stress. Its supplementation supports immunity and helps maintain performance and egg production during high ambient temperatures.

Why Combine Chromium with Vitamin C and Vitamin E?

While chromium addresses metabolic stress and oxidative damage, vitamins C and E enhance the bird's ability to cope with environmental and thermal challenges. The combination provides a synergistic effect, offering comprehensive stress management by:

Fig. 4: Effect of chromium and vitamin C on blood glucose, insulin, and corticosterone (Sahin et al., 2003)



1. Reducing corticosterone levels
2. Improving glucose metabolism
3. Strengthening immune function
4. Enhancing antioxidant capacity
5. Supporting thermotolerance
6. Promoting muscle integrity

A Modern Approach to Stress Management

The poultry industry is at a pivotal stage where traditional stress management practices, though valuable, are no

longer sufficient to meet modern production challenges. The transition toward chromium-based supplementation, supported by vitamins C and E, represents a significant shift toward holistic and science-driven stress management. This approach helps mitigate stress and improve performance by regulating corticosterone levels, enhancing insulin sensitivity, optimising glucose metabolism, strengthening cellular integrity, boosting antioxidant defence mechanisms, and improving overall productivity and feed efficiency.

In addition to stress mitigation, this integrated nutritional approach plays a significant role in immune strengthening and performance optimisation. It supports immune function by neutralising free radicals, enhancing antioxidant defence systems, and protecting cell membranes from oxidative damage. Vitamins C and E, in

particular, act synergistically to reinforce antioxidant activity and improve the bird's resilience under stress conditions.

From a performance perspective, these interventions contribute to improved energy metabolism, prevention of muscle degradation, and enhanced feed efficiency, ultimately supporting better growth and productivity.

Conclusion

As poultry production systems continue to intensify, the need for advanced, integrated stress management solutions becomes increasingly critical. Chromium-based nutritional strategies, particularly when combined with key antioxidants such as vitamins C and E, offer a promising pathway to address stress at its root cause.

This transition marks the beginning of a new era in poultry nutrition—one that prioritises metabolic efficiency, resilience, and sustainable performance.

References are available upon request.



IN PARTNERSHIP WITH
POULTRY FEDERATION
OF INDIA



Register for Visit



VIV SELECT INDIA 2026

Yashobhoomi Convention Center
New Delhi, INDIA

April 22-24

**THE INTERNATIONAL FEED TO FOOD
TRADE SHOW IN INDIA**

Powered by

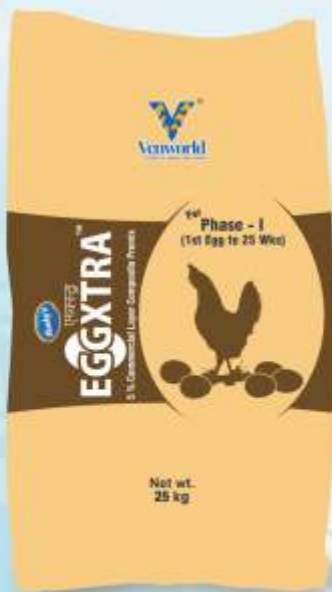


VIV WORLDWIDE

WWW.VIVSELECTINDIA.NL

EGGXTRA™

5 % Commercial Layer Composite Premix



GET
**BALANCED
NUTRITION**
IN EASY WAY

Key Takeaways from Gut Health Forum 2026: Gut to Immunity in Poultry

The Gut Health Forum 2026, organized by Nanovet Nutrition Pvt. Ltd. in collaboration with Andres Pinaluba S.A. (APSA), Spain, on 16 March in Hyderabad, served as a technical platform focusing on the critical role of gut health in improving poultry performance, immunity, and overall production efficiency.

The keynote session by Dr. H. B. Nataraja, Managing Director, Higain Feeds & Farms Pvt. Ltd., highlighted the evolving challenges in poultry production and the increasing importance of gut health and immune modulation in achieving consistent performance.

Key Insights from the Expert Session

- Rapid genetic improvements in broilers have outpaced gut capacity, leading to a growing imbalance between performance potential and physiological capacity.
- Gut health is the key driver of performance, directly influencing feed

conversion ratio (FCR), mortality, flock uniformity, and profitability.

- Nutrient diversion towards immune responses, along with the presence of undigested nutrients, significantly reduces growth efficiency.
- The gut-immune axis (GALT) plays a critical role, with chronic inflammation and oxidative stress adversely affecting productivity.
- Coccidiosis, subclinical infections, and anti-nutritional factors continue to be major contributors to compromised gut health.
- Early nutrition, water quality, and robust biosecurity measures are essential for establishing and maintaining gut integrity.
- Feed structure, fibre, and gizzard function are critical for improving digestion and nutrient utilization.
- Protein quality and


digestibility are key to preventing microbial imbalance and enteric disorders.

- New generation feed additives are shifting focus from antibiotics to microbiota modulation and gut integrity.
- Functional solutions such as enzymes, organic acids, and advanced molecules (e.g., mono butyric and mono lauric) support gut health and immune modulation.

Sustainable poultry production demands a holistic approach integrating nutrition, management practices, animal health, and advanced feed technologies.

Closing Remarks


Gut health remains the key driver of sustainable poultry performance. As production systems evolve, an integrated approach combining nutrition, management, and advanced feed technologies is essential to maintain gut integrity, optimize immunity, and achieve consistent productivity.



Beyond Pigmentation:
The role of Carotenoids in Biological Functions and Egg Quality in Laying Hens

Join our webinar on
May 6th, 2026
10.00 AM - 11.00 AM CET

REGISTER NOW



dsm-firmenich



Gold™

VIRUSHIELD

THIS IS THE ORIGINAL PRODUCT

**DON'T BE MISLED BY
LOOKALIKES**



**REGISTERED
UNDER
TRADEMARK**

NANO VET NUTRITION PRIVATE LIMITED

2nd floor, 32, 1/1, Main Rd, Kempapura, Hebbal, Bengaluru, Karnataka 560024

+91 8123693961 info@nanovet.co.in www.nanovetnutrition.com

REIMAGINING RURAL INDIA: CEAH'S VISION FOR ANIMAL HUSBANDRY IN VIKSIT BHARAT

In an exclusive interaction, Dr Mahesh PS, Joint Commissioner and Director of CEAH, shares insights on the future of India's livestock sector.

At Hesaraghatta, the Centre of Excellence in Animal Husbandry (CEAH) is transforming India's livestock sector—blending legacy, innovation, and entrepreneurship to unlock rural prosperity and build a future-ready Agri-economy.

A Landscape Where History Meets Transformation

Located on the serene outskirts of Bengaluru, Hesaraghatta is more than just a geographic landmark—it is a space steeped in history, ecology, and scientific evolution. Once known as Vyasara Ghatta, believed to be associated with the sage Vyasamuni, the region has long held cultural and environmental significance. Today, it has been formally recognized as the Greater Hesaraghatta Grassland Reserve (GHGCR), spanning over 5,678 acres of ecologically rich terrain.

The area's modern legacy was shaped by the visionary engineer M. Visvesvaraya, whose development of the Hesaraghatta Lake bund and auto-suction system stand as engineering marvels, with the lake supplying drinking water to Bengaluru until the 1990s. Over time, this landscape evolved into a nucleus for India's early livestock and poultry research



DR MAHESH PS

infrastructure.

It is here that the Centre of Excellence in Animal Husbandry (CEAH) now stands—an institution that brings together decades of scientific progress with a forward-looking vision for India's rural economy.

A Legacy Built Over Six Decades

The roots of CEAH trace back to the

1960s, when India began investing in structured livestock development. The establishment of the Regional Poultry Farm marked a turning point, introducing scientific breeding programs at a time when such practices were virtually unknown in the country. Central Poultry Development Organisation (CPDO) was home to

luminaries such as renowned genetics expert G. L. Jain, who laid the foundation for modern genetics in India. Early imports of advanced poultry strains led to the development of India's first commercial layer, the Hessarghatta Hybrid 260 (HH 260), setting a precedent for organized poultry breeding. Over the years, the campus expanded into a comprehensive ecosystem, encompassing poultry development and training institutes, central cattle breeding and frozen semen production facilities, regional fodder stations, and animal quarantine and certification services.

The institute offers structured training programmes for officers, industry professionals, entrepreneurs, and academia. In addition, it supplies a range of livestock products, including frozen semen, bull calves and heifers, day-old chicks and hatching eggs, ducks, fodder seeds, as well as milk and poultry products. It is also promoting emerging concepts such as compartmentalisation—creating disease-free, high-biosecurity production zones—to enhance India's export potential.

Collectively, these initiatives have played a foundational role in shaping India's livestock ecosystem, supporting farmers and training generations of professionals across the country.

The Birth of an Integrated Ecosystem

In April 2023, a major institutional transformation took place. Five independent entities were brought together under a single umbrella to form CEAH—creating a unified, multidisciplinary ecosystem. This integration marked a shift from fragmented operations to a holistic, value-chain-driven approach. Today, CEAH operates across key domains:

- Livestock breeding and genetics
- Dairy and poultry production systems
- Fodder development and feed security
- Import-export certification and regulatory services
- Capacity building for farmers, veterinarians, entrepreneurs, and policymakers

At its core, CEAH functions as both a knowledge hub and a business enabler, addressing the sector's needs across the value chain.

A INR 20 Lakh Crore Sector—Hiding in Plain Sight

Despite its scale, India's animal husbandry sector often remains underestimated. Valued at nearly INR 20 lakh crore (approximately \$200 billion), it contributes about 31% to the agricultural GDP. The dairy sector alone accounts for INR 12–15 lakh crore—surpassing the combined economic value of staple crops such as rice,

wheat, and sugarcane. Yet, public perception continues to reduce livestock to everyday commodities—milk, eggs, or meat—without recognizing the vast economic engine behind them.

What makes India unique is its “production by masses” model. Unlike countries such as New Zealand, where large-scale farms dominate, India's strength lies in millions of smallholders managing two to four animals each. Together, they form an “army of farmers” driving the country's global leadership in milk production.

The spectrum of dairy farming in India is remarkably diverse—from large-scale operations like Bhagyalakshmi Dairy Farm in Pune with 3,500 animals, to smallholders like Mr. Rangappa, whose family depends entirely on the income from just two cows. This diversity, while a strength, also calls for a nuanced, multi-pronged policy approach. The needs of smallholder farmers and large commercial enterprises vary significantly, making one-size-fits-all strategies ineffective.

From Livelihood to Enterprise

One of CEAH's most powerful contributions is reframing animal husbandry as a business opportunity rather than a subsistence activity.

Livestock farming offers what experts call a “Daily Revenue Model (DRM)”, where income

is generated consistently—through milk, eggs, or livestock sales. Unlike seasonal agriculture, it provides continuous cash flow, making it particularly attractive for rural households.

Innovative models such as the “50-50-50” sheep farming approach demonstrate how farmers can achieve monthly profits of over INR 1.5 lakh with structured planning. Similarly, aggregation-based startups like Akshayakalpa Organic, Sids Farm, and Milky Mist are reshaping the market by integrating production, processing, and branding.

The message is clear: animal husbandry can deliver both livelihood security and entrepreneurial growth.

Bridging the Gap: From Production to Market

While Indian farmers are highly skilled in production, market access and pricing remain major challenges.

CEAH emphasizes a shift in mindset—from being producers to becoming entrepreneurs. The idea is simple yet transformative: farmers should control how and where they sell their products.

Localized retail models, direct-to-consumer approaches, and small-scale branding can empower farmers to capture more value. The philosophy—“my product, my shop, my price”—encourages ownership and independence in rural markets.

Equally important is cost optimization. For small farmers, improving profitability does not necessarily require scaling up—it requires managing inputs efficiently. Practices like Total Mixed Ration (TMR), better feed planning, and resource optimization can significantly enhance margins.

Solving the Fodder Challenge

Fodder availability remains one of the most pressing constraints in India's dairy sector. CEAH is addressing this challenge through practical, scalable solutions—chief among them being silage—preserving green fodder for year-round use.

Silage allows farmers to preserve excess green fodder during the monsoon and use it during lean periods. Often described as “fodder pickle”, this technique ensures year-round feed availability and improves milk productivity.

CEAH's interventions include:

- Silage production and training centres
- Demonstrations of bagging, wrapping, and pit silage
- Promotion of rotational fodder cultivation models
- Introduction of high-yield perennial grasses

States such as Maharashtra and Punjab have already showcased the economic potential of silage, with widespread adoption and organised value chains. In many cases, its use has led to an increase of 2–3 litres of

milk per animal per day. In Punjab alone, the silage industry is estimated at around INR 2,000 crore, highlighting its strong commercial viability.

By promoting similar models nationwide, CEAH is working to make farmers fodder-secure and self-sufficient.

Training for Transformation

With a legacy of over 70 years in capacity building, CEAH has reimagined its training approach to align with modern needs.

Instead of focusing solely on technical knowledge, the institution now emphasizes business-oriented training. Programs are designed for a diverse audience:

- Farmers and rural entrepreneurs
- Veterinarians and extension officers
- Bankers and financial institutions
- International participants

Training modules combine classroom sessions with real-world exposure—covering everything from enterprise setup and cost management to accessing finance and navigating markets.

The demand is a testament to its relevance—programs are often fully booked months in advance, with participants even paying fees to gain access to structured, high-quality learning.

Looking ahead, digital integration is also on the horizon, with plans to launch a “BookMyTraining” platform to democratize access to learning.

Collaboration and Global Outlook

CEAH's impact is amplified through strong collaborations with national and international institutions. Partnerships with organizations such as the United Nations Development Programme (UNDP), ICAR-NIVEDI, and ICAR-NIANP enable knowledge exchange and innovation.

Engagements with universities, industry associations, and global programs further strengthen its role as a hub for research, policy, and practice.

Inspiring Through Stories

Beyond training and infrastructure, CEAH is deeply invested in shaping mindsets. Its outreach initiatives, including a podcast series inspired by Mann Ki Baat, highlight real-life success stories from the livestock sector—featuring entrepreneurs who have risen from modest beginnings to build thriving enterprises.

These stories are increasingly being used as reference material in universities, offering practical insights for aspiring professionals. One such example is Hemant, an automotive engineer who returned from France and ventured into poultry waste management. He developed a horizontal aerobic composting technology that converts organic poultry waste into odourless powder within 15 days, using minimal energy. First introduced through CEAH's podcast platform, his innovation has since scaled across seven states.

By showcasing such journeys, CEAH is creating a powerful knowledge ecosystem, inspiring a new generation to explore opportunities in animal husbandry.

Instead of waiting for opportunities, aspiring entrepreneurs are encouraged to actively seek them—knocking on every door until one opens.

For young veterinarians and agri-entrepreneurs, the advice is clear:

- Believe in your potential
- Combine passion with planning
- Start small but think long-term
- Focus on solving real-world problems

The livestock sector, valued at INR 20 lakh crore, offers immense opportunity—but success requires patience, discipline, and clarity of vision.

Stories of modern agri-entrepreneurs reinforce this belief. Leaders behind ventures like Akshayakalpa Organic and Sids Farm have demonstrated how innovation, aggregation, and quality focus can build scalable, high-value businesses.

The analogy is striking: the length of your runway determines how high you can fly—build patiently, scale sustainably.

The Human Story Behind the Vision

Behind the institutional vision lies a deeply personal philosophy—one rooted in values, resilience, and inspiration.

A powerful influence comes from the enduring guidance



of his mother, Shakunthala, whom he and his brother often describe as a “tigress”—a symbol of strength, determination, and unwavering belief. Her message was simple yet profound: do something that others will follow, rather than following the crowd.

It is a reminder that leadership, whether in policy or farming, begins with conviction and purpose.

A Vision for 2047

As India moves towards its vision of Viksit Bharat 2047, the animal husbandry sector is poised for exponential growth. With projections suggesting a \$1 trillion opportunity, the path forward lies in innovation, entrepreneurship, and inclusive development.

CEAH embodies this vision—serving as a bridge between tradition and transformation, and positioning India's livestock sector not just as a contributor to the economy, but as a driver of sustainable growth and rural prosperity.

Managing Amino Acid Shortages in Poultry: Practical Strategies for Sustainable Performance

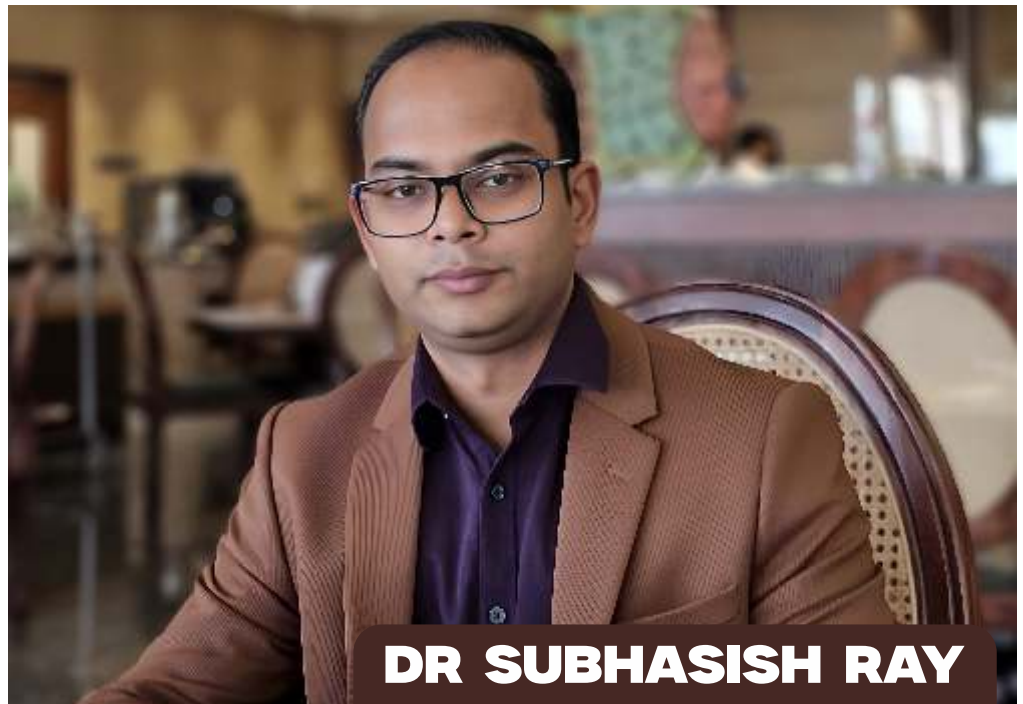
by **Dr Subhasish Ray**, Poultry Nutritionist

The increasing reliance on synthetic amino acids (AAs) in modern poultry nutrition has significantly improved feed efficiency while enabling reductions in crude protein (CP) levels. However, recent global disruptions in the supply of key amino acids such as DL-methionine, lysine, and threonine have exposed vulnerabilities in precision feed formulation systems.

These challenges have prompted a shift in approach—from dependence on synthetic supplementation to a more holistic strategy focused on biological efficiency. By leveraging natural ingredient optimization, enzyme technologies, gut health management, and energy-protein balancing, nutritionists can sustain performance while minimizing economic and environmental impacts.

Rethinking the Ideal Protein Concept

Modern poultry nutrition is built on the ideal protein concept, where digestible amino acids are supplied in precise ratios relative to lysine. This approach has enabled a 2–3% reduction in crude protein, improving



DR SUBHASISH RAY

Dr. Subhasish Ray, MVSc (Animal Nutrition), is a poultry nutritionist with over a decade of experience in feed formulation, technical consulting, and performance optimization across broilers, layers, and breeders. He has worked with leading organizations such as Amrit Feeds Limited and AB Vista South Asia, contributing to advanced nutrition strategies and practical field solutions. With over 20 research publications to his credit, Dr. Ray specializes in developing science-based feeding programs that enhance poultry health, productivity, and feed efficiency. He is currently based in Bhubaneswar, Odisha, where he provides technical consulting and support to poultry farmers and industry professionals.

nitrogen efficiency and reducing environmental load. However, heavy dependence on crystalline amino acids such as DL-methionine and L-lysine has made feed formulations susceptible to supply disruptions. According to Kidd and Tillman (2016), methionine, often is the first limiting amino acid in corn-soy diets, plays a critical role in growth, feather development, and immune function. During

shortages, nutritionists must move beyond precision supplementation and focus on optimizing natural nutrient availability.

Optimizing Natural Amino Acid Sources

Protein ingredients differ significantly in their amino acid profiles and digestibility. Strategic use of complementary proteins becomes essential when synthetic amino acids are

limited.

- Soybean meal is rich in lysine but deficient in methionine
- Corn gluten meal provides methionine but is low in lysine
- Animal protein sources offer more balanced amino acid profiles

Such ingredient synergy enhances digestible amino acid supply without significantly increasing formulation costs (Ravindran et al. 2014).

Complementation improves net protein utilization (NPU) and reduces the risk of limiting amino acid deficiencies.

Balancing Crude Protein Levels

Increasing crude protein is a common response to amino acid shortages. However, excessive protein inclusion can lead to increased nitrogen excretion (Nahm, 2007), poor litter quality, and elevated ammonia emissions. A more balanced approach involves:

- Limiting crude protein increase to 1–1.5%
- Supporting higher protein levels with improved digestibility strategies

This ensures better nitrogen retention efficiency while minimizing environmental impact.

Flexibility in Amino Acid Ratios

While the ideal protein concept emphasizes precision, short-term flexibility can be beneficial

under supply constraints. Minor deviations (up to 5%) from ideal amino acid ratios generally have minimal impact on growth performance (Baker, 2009). However, prolonged imbalances can affect carcass yield and immune function. Key biological roles include:

- Methionine: muscle deposition
- Threonine: gut mucin production and immunity
- Cysteine: antioxidant defence

This strategy is best suited for short-term adjustments rather than long-term formulation practices.

Feed Enzymes: Unlocking Nutritional Value

Feed enzymes play a crucial role in reducing dependence on synthetic amino acids by improving nutrient availability.

- Protease enhances protein hydrolysis
- Xylanase releases encapsulated nutrients
- Phytase breaks phytate-protein complexes

These enzymes can improve amino acid digestibility by 2–5%, significantly enhancing feed efficiency (Cowieson et al. 2010). Essentially, they convert “undigestible nutrients” into “available nutrients,” making them indispensable tools during supply constraints.

Exploring Alternative Protein Sources

Diversifying protein sources increases resilience in feed formulation.

- DDGS provides energy

and sulfur amino acids (Stein & Shurson, 2009)

- Rapeseed meal offers a balanced amino acid profile but contains anti-nutritional factors
- Sunflower meal supplies methionine but has high fiber content

However, variability in digestibility and risks such as mycotoxin contamination—especially in DDGS—necessitate stringent quality control measures.

Gut Health: The Hidden Driver of Efficiency

High crude protein diets can result in excess undigested protein reaching the hindgut, promoting pathogen proliferation (Clostridium perfringens), dysbiosis, and



Benefits

- Activates Gut Associated Lymphoid Tissue & improves immunity.
- Improves functional and morphological health of gut.
- Improves digestion through stimulating digestive enzyme secretion.
- Reduces pathogen load by binding and exclusion.

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

www.zeusbiotech.com

wet litter conditions. Excess protein fermentation further contributed to the formation of harmful metabolites such as ammonia and biogenic amines (Apajalahti & Vienola, 2016).

Maintaining gut health is therefore critical for efficient nutrient utilization.

Key strategies include:

- Supplementing probiotics to improve digestion and microbial balance
- Using organic acids to control pathogenic bacteria
- Including butyrate to support gut integrity and nutrient absorption

Improved gut health enhances amino acid utilization and overall feed efficiency.

Energy-Protein Interactions

Protein metabolism generates a high heat increment, which can reduce efficiency, especially under stress conditions.

Maintaining an optimal energy-to-protein ratio is

essential for maximizing growth performance (Leeson & Summers, 2005).

Key strategies include:

- Increasing oil inclusion by 0.5–1%
- Enhancing metabolizable energy (ME)
- Reducing heat stress

Improved energy availability enhances amino acid utilization and overall feed efficiency.

An Integrated Nutritional Approach

Addressing amino acid shortages requires a systems-based approach tailored to the severity of the constraint:

- Mild shortage: Enzyme use and amino acid adjustments → minimal performance loss
- Moderate shortage: Increased CP and alternative proteins → stable growth
- Severe shortage: Integrated strategies → controlled performance decline

This reflects the principles of

precision nutrition adapted to real-world constraints.

Conclusion

Synthetic amino acids will continue to play a vital role in poultry nutrition. However, current supply challenges highlight the need for adaptive and resilient feeding strategies.

Key priorities include:

- Optimizing digestible amino acid supply
- Leveraging ingredient complementarity
- Enhancing nutrient availability through enzymes
- Maintaining gut health
- Balancing energy and protein dynamics

Ultimately, the focus must shift from achieving theoretical precision to maximizing biological efficiency.

Core Principle:

Maximizing biological efficiency is more critical than achieving theoretical precision during nutrient constraints.



10th edition
FeedTech
Animal Feed Technology Expo 2027



EVENT SHOWCASING
THE COMPLETE
VALUE CHAIN OF
FEED INDUSTRY

INDIA'S ONLY FEED EXPOSITION

5-6-7

FEBRUARY 2027 | PUNE

www.feedtechexpo.com

From Gaps to Growth: The Case for a National Feed Security Roadmap

by **Capt. (Dr.) A.Y. Rajendra**, Godrej Agrovet



Capt. (Dr.) A.Y. Rajendra

On the occasion of National Farm Animals Day, it is important to reflect on the indispensable role livestock plays in shaping India's agricultural and economic landscape. From ensuring nutritional security to sustaining millions of rural livelihoods, farm animals remain central to the country's agri-food ecosystem. As demand for protein-rich food rises and sustainability becomes a non-negotiable priority, India's livestock sector stands at a critical inflection point, one that calls for a shift from scale-driven growth to efficiency-led, science-backed development.

Livestock today is no longer a supplementary activity; it has evolved into a core pillar of India's agricultural economy. Contributing nearly 30 percent to agricultural Gross Value Added and supporting millions of small and marginal farmers, the sector is deeply intertwined with both food security and income generation. India's position as the world's largest milk producer underscores its strength, yet also highlights the need for transformation. Despite its scale, per-animal productivity remains below

global benchmarks, primarily due to gaps in feed, fodder, and scientific management practices.

Addressing these challenges requires a strong focus on productivity enhancement through improved nutrition, genetic advancement, and robust animal health systems. Balanced, scientifically formulated feed plays a pivotal role in improving feed conversion efficiency, directly translating into higher milk yields, better growth rates, and improved reproductive performance.

Equally critical is the integration of preventive healthcare and biosecurity measures. Proactive vaccination, hygiene, and disease management practices reduce mortality risks and economic losses, while ensuring consistent productivity.

Sustainability and productivity, often perceived as competing priorities, are increasingly converging. Science-led, lifecycle-based nutrition solutions enable precise nutrient delivery tailored to different growth stages, improving biological efficiency while reducing resource wastage.

Animal welfare, too, is gaining recognition as a critical driver of productivity. Well-managed animals, those with access to balanced nutrition, clean water, proper housing, and stress-free environments, demonstrate significantly better performance outcomes. Studies indicate that improved welfare practices can enhance productivity by 9–15 percent, alongside reducing disease incidence and improving feed efficiency.

At the ecosystem level, the role of organised industry players has become increasingly important in driving this transformation. Integrated feed systems, backed by strong research

and development, are helping translate scientific advancements into practical, on-ground solutions for farmers.

Equally vital is farmer engagement, through advisory services, training programmes, and last-mile support, which ensures that knowledge and innovation are effectively adopted at the grassroots level.

However, the path forward requires deeper collaboration between corporates and policymakers. Smallholders, who own nearly 80 percent of India's livestock, remain the backbone of the sector but continue to face challenges in accessing quality inputs, veterinary services, and technical knowledge. Bridging these gaps calls for a coordinated approach—through a National Feed Security roadmap, strengthened extension systems, and scalable public-private partnerships.

Technology will play a defining role in shaping the next phase of livestock growth. From digital advisory platforms and ration balancing tools to IoT-enabled monitoring systems and mobile veterinary services, the sector is witnessing the early stages of a digital transformation.

The future of livestock lies in precision, performance, and sustainability—where value is created not by increasing herd size, but by improving output per unit of input.

As India looks to build a resilient, future-ready livestock sector, the focus must remain on science-led innovation, responsible animal care, and inclusive growth. Strengthening productivity, empowering farmers, and embracing sustainability will be key to unlocking the sector's full potential, ensuring it continues to drive both economic progress and nutritional security for the nation.



Image Source: India Shipping News

Impact of the West Asia Crisis on the Indian Poultry Sector

Key Insights from the VIP Technical Webinar Series – April 2026

by **Gaurav Chander**, Think Grain Think Feed

Executive Overview

The Indian poultry sector is currently facing a phase of significant uncertainty driven by the ongoing geopolitical crisis in West Asia. As highlighted during the recent VIP Technical Webinar Series, the conflict has disrupted global supply chains, particularly those linked to crude oil and petroleum byproducts, creating cascading effects across feed, logistics, exports, and animal health.

India's heavy reliance on West Asian markets for energy and critical inputs has amplified the impact, forcing the industry to rapidly adapt to evolving challenges.

Supply Chain Disruptions and Nutritional Challenges

One of the most immediate concerns is the disruption in the availability of essential feed ingredients. Amino acids such as methionine—closely linked to petroleum derivatives—are in short supply, while fermentation-

based amino acids like lysine, threonine, and valine are also affected. Experts noted that:

- Prices of key inputs, including Meat and Bone Meal (MBM), have nearly doubled
- Packaging costs (PP bags) have risen by 30–40%
- Transportation costs have surged significantly, impacting ingredient pricing

Additionally, shortages of Di-Calcium Phosphate (DCP) and Mono-Calcium Phosphate (MCP), linked to fertilizer industry disruptions, have compounded formulation challenges. Rising oil prices have further limited the use of fats and oils in feed, particularly during the summer season when energy balancing is critical.

Field-Level Realities: Insights from Industry Experts

During the webinar moderated by Dr Ajit Ranade, panelists highlighted the

ground-level impact:

- Dr Ajay Deshpande emphasized disruptions in amino acid and additive availability, with suppliers demanding advance payments and traders capitalizing on volatility.
- Dr Sharad Singh reported a sharp decline in chick placements (30–40%) in North India, reduced consumption due to falling restaurant demand, and a 4–5 times increase in expansion costs.
- Dr Manju NC highlighted global shortages in protein sources, phosphorus, and methionine, urging the industry to explore alternative raw material combinations and innovative formulations.

Export Crisis and Market Distortions

The export segment, particularly in South India's Namakkal hub, is facing a severe crisis. Over 125 containers of eggs were stranded at ports such as Mumbai and Cochin due to shipping disruptions and “force majeure” conditions.

Key challenges include:

- Freight costs escalating from \$1,800 to nearly \$9,500
- Additional war-related surcharges significantly increasing shipping costs
- Delays leading to product expiry

Mr Valsan Parmeshwaran highlighted the urgent need for streamlined export certifications, noting that differing requirements (EIC

and AQCS) across countries are creating operational bottlenecks.

Regional Market Dynamics

The crisis has created contrasting regional trends:

- North India: A “panic phase” marked by reduced institutional demand and declining placements
- South India: Stable domestic demand but falling prices due to export disruptions, with egg prices dropping to unsustainable levels (around INR 3.5 per egg)

Animal Health and Vaccine Security

The webinar also underscored India's continued dependence on imported vaccines, particularly for IB variants and Genotype VII strains.

- Prof. Dr Pankaj Shukla noted that policymakers are closely monitoring the situation and considering import duty adjustments to stabilize costs.
- Dr I Balasundaram highlighted rising disease challenges, including Egg Drop Syndrome (EDS) and Avian Metapneumovirus (AMPV), along with declining hatchability rates.

The ongoing threat of HPAI further emphasizes the need for stronger vaccination policies and domestic manufacturing capabilities.

Strategic Interventions and Industry Response

Experts collectively emphasized the need for adaptive and resilient

strategies:

- Nutritional Flexibility: Use alternative ingredients such as rapeseed meal, maize gluten, and rice DDGS
- Inventory Management: Avoid abrupt withdrawal of additives; instead, optimize usage
- Cost Optimization: Focus on feed conversion efficiency rather than expansion
- Policy Support: Advocate for reduced import duties, standardized export certifications, and domestic production of amino acids and vaccines
- Farm Management: Strengthen biosecurity, improve water quality, and ensure proper waste disposal

The Way Forward

The Indian poultry industry has demonstrated resilience in past crises, including avian influenza outbreaks and the COVID-19 pandemic. However, the current geopolitical disruption requires a more strategic and coordinated response.

A key takeaway from the webinar was the need to pause aggressive expansion and prioritize efficiency, innovation, and self-reliance. Strengthening domestic production capabilities and adopting flexible nutritional strategies will be critical in navigating the current uncertainty.

We acknowledge the valuable inputs and observations shared by Dr Sujit Reddy based on the webinar proceedings.

From Assumed Nutrition to Measured Precision: The Enzyme Revolution

In an era where feed efficiency, sustainability, and precision nutrition are redefining animal agriculture, enzymes have emerged as a critical tool in modern feed formulation. In this exclusive interaction, Julien Kanarek, Global Feed Enzymes Sr. Manager at NOVUS, shares his insights on the evolving role of enzyme technology in the feed industry.

With nearly two decades of experience in animal nutrition and feed additives, Kanarek discusses how enzymes have transitioned from basic digestibility enhancers to advanced, data-driven solutions that improve performance, optimize costs, and support sustainability. He highlights the growing importance of measuring raw material variability—particularly in widely used ingredients like soybean meal—and explains how innovations in enzyme science are helping nutritionists unlock greater value from feed. Excerpts from the interview:

With nearly two decades in animal nutrition and feed additives, how have you seen the role of enzymes evolve in improving feed efficiency?

Over the past two decades, enzymes have firmly established their role in animal nutrition. What started as a simple way to help animals get more out of their feed has evolved into a sophisticated, biotech driven toolbox. Today's enzymes are tailored to specific diets, helping to cut waste, control costs, and support sustainability. Thanks to ongoing research and growing consumer awareness, enzymes are now seen as essential — not just for feed efficiency, but for animal health, performance, and environmental impact too.

Soybean meal is considered a cornerstone of animal nutrition. Why is its nutritional value often "assumed rather than

measured" in practical feed formulation?

Because soybean meal sits at the heart of the global feed market, its nutritional value is often treated as a given. Under constant price pressure, formulators lean on standard tables, while seasonal and climate-driven variability shifts composition; rarely checked, mostly assumed.

There is a common belief that heat processing neutralizes anti-nutritional factors. Why does trypsin inhibitors (TI) still remain a concern? Can you explain how TI impact protein digestibility and overall animal performance?

Heat processing does reduce many antinutritional factors, but trypsin inhibitors (TI) remain a concern because they can be relatively heat-stable, depending on the feed processing. Residual TI bind trypsin and chymotrypsin in the gut,

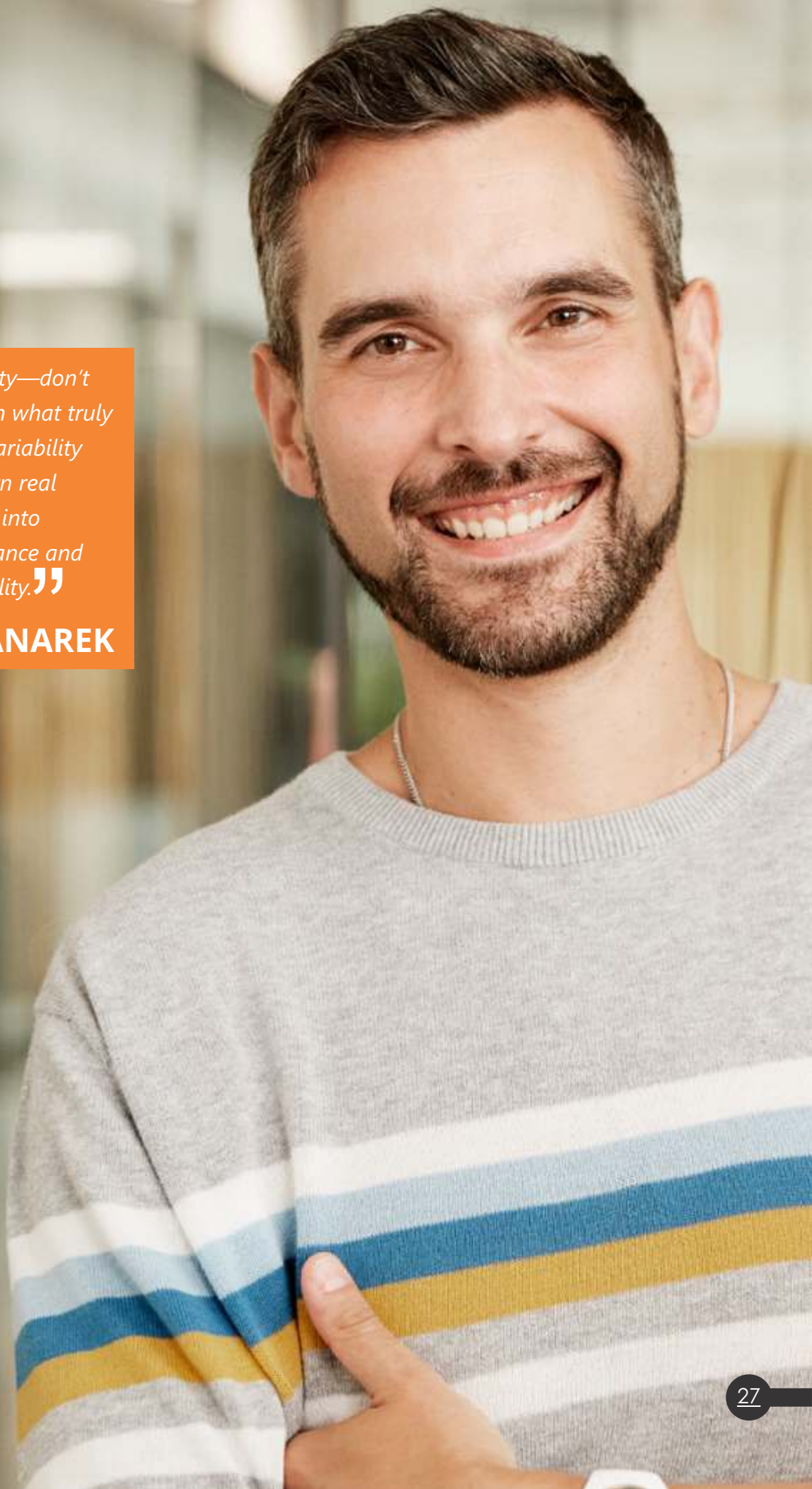
directly limiting protein digestion. To compensate, animals overstimulate pancreatic enzyme secretion, which costs energy and amino acids. The result is poorer protein utilization, reduced growth performance, and less efficient feed conversion, especially in young and high performing animals.

NOVUS has built a global soybean database over the last decade. How does this data translate into actionable insights for customers?

By tracking soybean quality globally, NOVUS turns data into practical insight—highlighting variability in trypsin inhibitors levels. This enables customers to benchmark raw materials, quantify nutritional risk, anticipate performance impacts, and implement tailored nutritional strategies and solutions that optimize cost control, feed efficiency, and return on investment.

“Measure variability—don’t average it. Focus on what truly matters, manage variability proactively, and turn real nutritional insights into consistent performance and long-term profitability.”

J. KANAREK



How do you tailor enzyme solutions for different production systems or regional challenges? Do you see enzyme technology playing a role in reducing dependence on traditional raw materials like soybean meal?

We tailor enzyme solutions by starting with the species-specific regional realities: raw material profile, animal age, gut physiology, performance targets and regional factors like heat or ingredient variability. By analyzing substrate availability (like TI) and digestive limitations, we can fine-tune enzyme recommendations to unlock nutrients where they matter most.

Looking ahead, enzyme technology absolutely supports reducing reliance on traditional ingredients like soybean meal by improving nutrient release from alternative or lower quality raw materials and therefore giving formulators more flexibility in choices and cost management.

NOVUS has recently strengthened its enzyme portfolio through the acquisition of BioResource International and its partnership with Ginkgo Bioworks. How do these strategic moves enhance your ability to develop and deliver next-generation enzyme solutions for the industry?

These strategic moves really elevate how NOVUS innovates and competes. NOVUS had been a long-time partner with BioResource International (BRI), which has

manufactured our CIBENZA® Enzyme Feed Additive products since 2008. BRI brings the enzymology expertise and capabilities that NOVUS was looking for and acquiring the company was a logical next step to better serve our customers and expand our innovation pipeline.

The partnership with Ginkgo Bioworks adds world-class engineering and synthetic biology capabilities, enabling the development of more efficient and cost-effective enzymes for customers worldwide. Together, these collaborations create a powerful, integrated innovation pipeline that addresses real feed challenges, delivers measurable customer value, and keeps NOVUS at the forefront of next-generation nutritional solutions.

Do you see the industry moving toward more data-driven, precision nutrition approaches?

Absolutely. The industry is clearly shifting toward data-driven precision nutrition. Customers are increasingly real-time ingredient analytics, performance data, and targeted technologies to make smarter decisions. This allows them to better manage variability and consistently deliver optimized performance.

What lessons can emerging markets like India learn from more mature markets in enzyme utilization?

Emerging markets like India can learn to adopt enzymes as value-creation tools by using real-time data, ROI

tracking, and strategic application. Mature markets demonstrate how effective enzyme use reduces risk, improves formulation flexibility, and drives scalable, profitable growth.

You mentioned enzymes haven't reached their full potential yet. Where do you see the next breakthroughs coming from?

The next breakthroughs will come from smarter biotechnology linked to stronger database management with a direct focus on advanced enzyme strain engineering, precision enzyme-substrate matching, and real-time ingredient analytics. By integrating enzyme R&D with AI-driven design and on-farm performance data, enzymes will become more consistent, targeted, predictable, and economically powerful than ever before.

Is the industry ready to move from "assumed nutrition" to "measured precision nutrition"? What would be your key messages to producers and nutritionists? Yes, parts of the industry are already doing this and momentum is clearly building. Data availability, analytics, and precision technologies are finally aligned.

My key message to producers and nutritionists: measure variability, don't average it. Measure what matters, manage variability proactively, and turn real nutritional insights into consistent performance for long term profitability.

C-VIVA™

A Natural Synergistic blend against heat Stress

SUMMER OUTSIDE,
STABILITY
INSIDE



C-Viva – a summer shield
to combat the stress

immeureka™
The art of science

IMMEUREKA ANIMAL HEALTH PVT LTD

9B, near Asian institute of nephrology and urology, Vikrampuri Colony, Karkhana | www.immeureka.com

GMP+ International Unveils New Global Standard for Feed Life Cycle Assessment

GMP+ International has announced the launch of its new Feed Life Cycle Assessment (LCA) standard, set to go live on 6 May 2026. The standard introduces a harmonised and transparent framework to measure and communicate the environmental impact of animal feed across the supply chain.

Developed in response to rising global demand for credible sustainability metrics, the Feed LCA standard aligns with internationally recognised methodologies and the Product Environmental Footprint Category Rules (PEFCR) for feed. This enables companies to generate consistent and comparable data, helping them meet evolving expectations from regulators, retailers, and consumers.

The standard is the result of extensive collaboration across the industry. Over the past year, GMP+ Community and OVOCOM worked closely with GMP+ International through consultations, think tank sessions, and expert reviews to develop a robust and practical framework.

Martine Boon, Managing Director of GMP+ International, highlighted that the initiative reflects the strength of sector-wide collaboration in addressing sustainability challenges and preparing for future regulatory requirements. Meanwhile, Frank D'Hondt, Managing Director of OVOCOM, emphasised the importance of harmonisation, noting that just as feed safety standards have been unified, sustainability frameworks must also follow a similar path.

With this launch, GMP+ International aims to equip the global feed sector with a consistent and future-ready sustainability assessment tool.

Delhi High Court Quashes FSSAI Norms on Animal Feed and BIS Certification

In a significant ruling, the Delhi High Court has struck down key regulations issued by the Food Safety and Standards Authority of India relating to animal feed composition and mandatory BIS certification.

The Division Bench comprising Devendra Kumar Upadhyaya and Tejas Karia held that the Food Safety and Standards Act, 2006 is strictly limited to regulating food meant for human consumption and does not extend to animal feed. The Court observed that FSSAI had exceeded its statutory mandate by attempting to regulate the cattle feed sector without legislative backing.

The case was filed by Godrej Agrovet Ltd, which challenged amendments mandating compliance with Bureau of Indian Standards norms for commercial feed. The Court noted that

BIS standards are voluntary under the BIS Act, 2016, and cannot be made mandatory by FSSAI without appropriate government notification.

The Bench also emphasized that animal feed does not fall within the definition of "food" under the Act and that regulating livestock feed falls under a different legislative domain, including state jurisdiction.

Accordingly, the Court quashed the contentious Note (c) under Regulation 2.5.2, along with FSSAI directives issued between 2019 and 2021, terming them "ultra vires" to the parent Act.

The ruling is expected to have major implications for the animal feed industry, reinforcing regulatory boundaries and easing compliance burdens on manufacturers.

Telangana Farmers Pivot to Maize Amid Changing Market Dynamics

A notable shift in cropping patterns is emerging across Telangana, with farmers increasingly moving away from cotton cultivation toward maize during recent Kharif seasons. The trend, which gained momentum in 2025, is expected to strengthen further in 2026, driven by economic stability, lower risk, and rising market demand.

Maize cultivation has expanded steadily, with acreage rising from around 2.03–2.21 lakh hectares in Kharif 2024–25 to nearly 2.60 lakh hectares in 2025. Districts such as Khammam, Nirmal, Warangal, and Jagtial have witnessed a significant surge in maize sowing, reflecting farmers' preference for more reliable returns.

In contrast, cotton cultivation has shown signs of decline, impacted by price volatility, pest infestations—particularly pink bollworm—and rising input costs. Crops like soybean and chilli have also lost ground due to inconsistent yields and market fluctuations, further accelerating the shift toward maize.

Maize offers several advantages, including lower input requirements, better resilience to weather variability, and strong demand from the poultry, livestock feed, and ethanol sectors. The national push for ethanol blending has further supported maize prices, making it an attractive alternative.

However, the expansion has increased demand for fertilizers, especially urea, prompting the state government to seek higher allocations for Kharif 2026. Supply constraints during peak months have already led to distribution challenges.

To address this, the government has introduced measures such as a Urea Booking Mobile App and revised procurement norms to support farmers. Despite challenges like pest attacks and post-harvest losses, maize is set to play a central role in shaping Telangana's agricultural landscape in the coming seasons.

Soybean Prices May Weaken as US Farmers Shift Acreage from Corn

Global soybean markets are expected to turn bearish in the second half of 2026, as increased planting in the United States and ample global supplies weigh on prices, according to analysts.

Despite a 12% price rise since early 2026, research firm BMI has cautioned that current market strength is temporary. The agency has revised its annual price forecast for CBOT soybean futures to 1,130 cents per bushel, supported in the short term by improved US-China trade activity and geopolitical tensions involving Iran.

However, the outlook is expected to shift as supply fundamentals loosen. The US Department of Agriculture has projected soybean planting at 84.7 million acres in 2026, up 4% year-on-year, as farmers increasingly switch from corn due to rising nitrogen fertilizer costs.

Globally, production is also set to rise. The International Grains Council estimates soybean output at 442.3 million tonnes in 2026–27, up from 425.9 million tonnes the previous season. Higher availability, projected at 520.4 million tonnes, is expected to outpace consumption growth, resulting in a supply surplus.

Adding to the bearish sentiment is the prospect of another record harvest in Brazil, the world's leading soybean exporter. Increased supply from both the US and Brazil is likely to cap price gains despite short-term volatility linked to trade developments.

BMI expects soybean prices to average 1,155 cents per bushel in Q2, easing to 1,130 cents in Q3 and 1,105 cents in Q4. While geopolitical tensions and trade negotiations may provide intermittent support, analysts believe the weight of global supplies will ultimately pressure prices in the latter half of the year.

China's Rising Poultry Exports Transform Asia's Protein Trade

China's rapid growth in poultry production is reshaping trade flows across Asia, reinforcing poultry's position as the fastest-growing segment in the global animal protein market. According to the latest report by the US Department of Agriculture, China's poultry output is projected to reach 17.3 million tonnes in 2026, surpassing Brazil and moving closer to the United States.

This surge is driven by expanding integrated operations, higher grandparent stock availability, and government support. However, relatively low domestic consumption—around 11 kg per capita compared to significantly higher pork intake—has led China to channel surplus production into export markets.

Exports are expected to reach 1.4 million tonnes in 2026,

nearly tripling since 2020. China became a net exporter in 2024, with exports projected to account for about 8% of total production. While traditional markets such as Japan and Hong Kong remain relevant, their share has declined sharply, giving way to emerging destinations.

Countries like the Philippines, Cambodia, and Malaysia are driving demand growth, alongside new markets in Central and West Asia. These regions are increasingly sourcing affordable poultry to meet rising protein needs.

China's export mix is also evolving, with frozen cuts and whole birds now dominating shipments, reflecting demand from price-sensitive economies. Despite restricted access to premium markets such as the EU and UK, China is intensifying competition with established exporters like Brazil and Thailand in developing markets.

With Asia emerging as a key consumption hub, China's expanding supply is expected to further influence global poultry trade patterns, making the region central to future growth in the protein economy.

Shrimp Health Foundation Launched to Strengthen Disease Research and Industry Collaboration

In a significant development for India's aquaculture sector, the Collaborative Shrimp Disease Investigation Program (CoSDIP) has transitioned into a more structured initiative with the formation of the Shrimp Health Foundation, a Section 8 not-for-profit entity. The move aims to enhance transparency, enable sustainable scaling, and support long-term research on shrimp health management.

CoSDIP, a farmer-led and science-backed initiative, has witnessed steady growth in recent months, driven by strong support and trust from stakeholders across the value chain. As the program expanded, the need for a formal platform became evident to facilitate structured operations, transparent fund management, and wider participation, including corporate social responsibility (CSR) contributions.

The newly established foundation will serve as a dedicated vehicle to channel resources efficiently while ensuring accountability. It will also play a crucial role in scaling initiatives such as CoSDIP, which focus on addressing disease challenges impacting shrimp farming.

Importantly, the PFFI will continue to lead and execute the program, maintaining continuity in its field-level implementation and farmer engagement.

To further strengthen the initiative, an Advisory Board comprising eminent experts from science, industry, and policy has been constituted. The board includes distinguished professionals such as S. Santhana Krishnan, Tarun Shridhar, C. V. Mohan, Iddya Karunasagar, Kuldeep K. Lal, K. N. Raghavan, K. V. Rajendran, Arun K. Dhar, Indrani Karunasagar, Craig Browdy, D. Ramaraj, Victor Suresh, Victoria

Alday, Ravi Kumar Yellanki, Oscar Hennig, Olivier Decamp, Willem van der Pijl, Amerneni Ravikumar, Suresh Nayak, and Madhu Mohan Talluri.

Founding Directors I.P.R. Mohan Raju and Balasubramaniam V expressed their gratitude to stakeholders and advisors for their continued support. Balasubramaniam V said, "CoSDIP began as a farmer-driven response to a serious field problem. Scientific institutions helped give it structure, industry support strengthened the effort, and the Shrimp Health Foundation was established to provide a transparent and long-term institutional platform for its growth."

Indian Aqua Player Diversifies into Poultry

In a strategic move to diversify beyond aquaculture, Growel Formulations Pvt Ltd has announced its entry into the poultry sector through an investment in Provet Pharma Private Limited. While the financial details remain undisclosed, the deal marks a significant expansion of Growel's footprint in animal health and nutrition.

Provet Pharma, established in 2009 by veterinary professionals V Muthu Selvan and S Senthil, has built a strong presence in poultry healthcare, offering preventive and therapeutic solutions. The company also has a growing footprint in aquaculture and has recently ventured into export markets.

Growel stated that the investment aligns with its long-term vision of building a diversified, science-driven platform focused on animal nutrition, health, and wellness. The poultry segment, being one of the fastest-growing protein industries, presents significant opportunities driven by rising demand, advancements in feed technology, and increasing emphasis on productivity and animal health.

The transaction was facilitated by Deloitte India, which acted as the buy-side advisor to Growel, while Veda Corporate Advisors advised Provet Pharma.

With this partnership, the combined platform is expected to enhance product offerings and strengthen its value proposition for farmers and integrators across poultry and aquaculture segments. The move also complements Growel Group's broader diversification strategy, following its recent foray into the pet nutrition segment.

This development underscores a growing trend of cross-sector expansion within the animal health industry, as companies seek integrated, multi-species solutions to drive future growth.

West Asia Conflict Hits India's Soybean Meal Exports

India's soybean meal exports witnessed a sharp decline of nearly 63% in March, falling to around 60,000 tonnes compared to 1.62 lakh tonnes in the same period last year, reflecting the impact of ongoing geopolitical tensions in West Asia. The disruption has particularly affected key export markets such as Iran, the UAE, Kuwait, and Oman, where trade flows have slowed due to regional instability.

In addition to logistical challenges, higher domestic prices have made Indian soybean meal less competitive in the global market compared to supplies from countries like Brazil, Argentina, and the United States. This has further constrained export volumes, limiting India's ability to capitalize on international demand.

However, the domestic market has shown resilience, with consumption rising to approximately six lakh tonnes in March, supported by steady demand from the animal feed industry. The trend indicates a growing reliance on the domestic feed sector to absorb production amid fluctuating export conditions.

Industry experts suggest that the current scenario underscores the need for strengthening supply chain resilience, improving price competitiveness, and diversifying export markets to mitigate the impact of geopolitical uncertainties on India's agri-export landscape.



DAIRY FARMING & PROCESSING EXPO

16-18 October 2026

Ramkrishna Multipurpose Hall in Shri Shahu Market Yard, **KOLHAPUR**

Stall Participation





INDUSTRY EXPO 2026
The Farming & Processing Event

Register for Visit



SAVE THE DATE AND BOOK YOUR STALL

+91 98960 35006
p.arora@dairyindustryexpo.com | www.dairyindustryexpo.com

Success story during Summer stress



VENLYTE[®] TABLET

WATER SOLUBLE STRONG ELECTROLYTE CONCENTRATE

Effervescent tablet

- Quick dissolution
- Uniform solubility in drinking water.
- Accurate dosing method.
- Easy to use and storage.



VENLYTE[®] POWDER

WATER SOLUBLE ELECTROLYTE CONCENTRATE FOR POULTRY

- Reduces Heat Stress During Summer
- Provides energy and supportive therapy for chicks immediately after arrival at farm.
- For energy and supportive therapy during disease, diarrhoea & dysentery.
- To maintain correct osmotic pressure and precise acid-base equilibrium.



Presentation : 1 kg, 5 kg and 25 kg



For further information contact

VENKY'S (INDIA) LIMITED

ANIMAL HEALTH PRODUCTS DIVISION

Regd. Office: 'Venkateshwara House', S. No. 114/A/2, Pune-Sinhagad Road,

Pune-411030, Maharashtra, India

Tel.: +91 - 20 - 24251803, Fax.: +91 - 20 - 25458797, Website: www.venkys.com

**CELEBRATING
MORE THAN
90 YEARS
OF FEEDING
THE FUTURE**



For producers

Empowering producers to make the most out of their resources.



For the planet

Joining forces to efficiently produce the best quality meat, eggs and milk from the existing resources.



For everyone

Setting for ourselves the ambitious goal of feeding 9 million people by 2050.

Our Innovative Products Range

TOXO[®]-XL | **TOXO[®]** | **TOXO[®]-MX** | **Fylax[®]** | **Fysal[®]**

Selko[®]-pH | **Selacid[®] GG** | **Fytera Perform**

IntelliMin | **IntelliOpt** | **Optimin[®]** | **IntelliBond[®]**

Trouw Premixes | **maxcare**



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

REVEAL THEIR FULL POTENTIAL



DISCOVER MORE

**Looking to enhance your
aging layers' productivity?**

Concerned about declining egg quality or reduced persistency?
Discover nutritional solutions designed to help you achieve 500 eggs in
100 weeks—sustainably and efficiently



ADISSEO
A Bluestar Company



CHROMFLEX™ - C

STRESS FREE SUMMER

CHROMFLEX™-C is a unique combination of Chromium Propionate fortified with coated Vitamin C ensuring **optimal growth rate, production performance & livability** to broiler, layer and breeder birds under **stress conditions**.

KEMIN
Compelled by Curiosity™

© Kemin Industries, Inc. and its group of companies 2025. 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.