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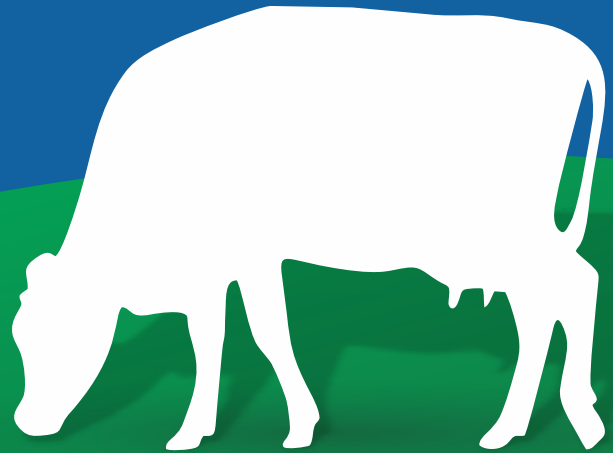


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# From the Pen of Chief Editor



## Biosecurity in Dairy Farming: A Pillar for Sustainable Agriculture

Biosecurity in dairy farming is critical for ensuring the sustainability, profitability, and safety of the dairy industry. In an era where disease outbreaks and antibiotic resistance loom large, implementing stringent biosecurity measures is imperative. It protects animal health, ensures the quality of milk and dairy products, and shields farmers from economic losses caused by diseases.

Dairy industry operates in a dynamic environment where animals are exposed to various pathogens. Diseases such as bovine tuberculosis, foot-and-mouth disease, and mastitis can spread rapidly within and between farms, causing significant losses. Global trade, climate change, and increasing human-animal interactions increase the risk of disease transmission. These factors underline the urgency of prioritizing biosecurity measures to safeguard the industry against potential crises.

Biosecurity in dairy farming encompasses a range of practices designed to prevent the introduction and spread of infectious diseases. These include managing animal movements, ensuring hygienic practices, monitoring health, and controlling interactions with external environments. Each measure is a proactive step toward mitigating risks that could otherwise cripple dairy operations.

Cleanliness is the cornerstone of biosecurity. Regular cleaning and disinfection of equipment, milking areas, and housing facilities prevent the buildup of harmful pathogens. Proper manure management ensures that waste does not serve as a breeding ground for disease-causing organisms.

Monitoring and regulating the movement of animals—both within the farm and during transport—reduces the risk of disease transmission. Quarantining new or returning animals before introducing them to the herd is an essential.

Routine health checks and vaccination programs are critical. Early detection of illnesses can prevent outbreaks, while vaccines serve as a cost-effective way to build immunity in the herd. Contaminated feed and water are common sources of infection. Ensuring that feed is stored properly and water sources are clean minimizes the risk of exposure to pathogens.

Limiting access to farm premises and ensuring visitors adhere to hygiene protocols reduce the likelihood of introducing external contaminants. Farmers and farmworkers need to be well-informed about biosecurity measures. Regular training sessions can empower them to recognize risks and implement preventative strategies effectively.

The economic consequences of failing to implement robust biosecurity measures can be devastating. Outbreaks result in reduced milk production and increased veterinary costs leading to financial strain. Compromised biosecurity can have serious public health implications, as zoonotic diseases such as brucellosis and salmonellosis can transfer from animals to humans. Maintaining strict biosecurity not only protects animal health but also ensures the safety of the food supply chain.

Modern technology offers innovative solutions to enhance biosecurity in dairy farming. Digital tools such as herd management software, wearable health monitors, and automated cleaning systems provide real-time data to identify potential risks and improve operational efficiency. Investments in such technologies can yield long-term benefits, reducing disease incidence and improving overall farm productivity.

Adopting biosecurity measures is fraught with challenges. Small-scale farmers, in particular, often face financial and logistical constraints that hinder the implementation of comprehensive programs. Lack of awareness and resistance to change can impede progress. Addressing these challenges requires collaborative efforts between governments, agricultural organizations, and the private sector to provide training, financial assistance, and resources to farmers.

Biosecurity is a non-negotiable aspect of modern dairy farming. It protects the health of animals, ensures the quality and safety of dairy products, and preserves the economic stability of farms. By adopting a proactive approach to biosecurity, the dairy industry can build resilience against future challenges and contribute to sustainable agricultural practices. Stakeholders at every level must recognize that investment in biosecurity today is an investment in the future of dairy farming.

*Vishal*

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# Importance of Biosecurity in Dairy Farming

**Siddhi Gupta and Parth Rai Gupta**  
Co-Editor

Biosecurity has emerged as a cornerstone of modern dairy farming. It encompasses measures designed to protect livestock from infectious diseases, pests, and other biological threats. As dairy farming continues to evolve to meet growing global demand for milk and milk products, ensuring the health and productivity of dairy cattle has become increasingly critical. In this article we delve into the concept of biosecurity, its significance, practical strategies for implementation, and its broader implications for the dairy industry.

## Understanding Biosecurity

Biosecurity refers to preventive

measures aimed at reducing the risk of transmission of infectious agents within and between farms. These measures can include protocols for farm management, animal movement, sanitation, and disease surveillance. In dairy farming, where animals live in close proximity and are susceptible to various diseases, biosecurity practices are essential for maintaining herd health and ensuring economic viability.

## Why Biosecurity Matters in Dairy Farming

- **Disease Prevention and Control** Dairy cattle are vulnerable to a wide array of diseases, such as bovine



tuberculosis, mastitis, foot-and-mouth disease, and Johne's disease. These diseases not only threaten animal health but also reduce milk production, increase veterinary costs, and sometimes lead to culling. Effective biosecurity measures help prevent the introduction and spread of these diseases, ensuring the sustainability of the farming operation.

- **Economic Benefits** Disease outbreaks can lead to significant financial losses. Beyond the direct costs of treatment and culling, farmers may face losses due to reduced milk yields, market restrictions, and diminished animal value. Preventative biosecurity practices are often far less expensive than managing disease outbreaks, making them a cost-effective approach to farm management.
- **Food Safety** Healthy cows produce safe milk. Diseases such as mastitis can compromise milk quality, leading to contamination with harmful bacteria like *Escherichia coli* and *Listeria*. By maintaining robust biosecurity protocols, farmers can ensure the production of high-quality milk, enhancing consumer confidence and meeting regulatory standards.
- **Public Health** Several cattle diseases, such as brucellosis and leptospirosis, are zoonotic, meaning they can be transmitted to humans. Biosecurity measures minimize these risks, protecting farm workers and the wider community.
- **Environmental Impact** Disease outbreaks often result in increased use of antibiotics and other treatments, which can lead to environmental contamination and the development of

antimicrobial resistance (AMR). Proactive biosecurity reduces the need for such interventions, promoting more sustainable farming practices.

### **Key Components of Biosecurity in Dairy Farming**

Effective biosecurity involves a multi-faceted approach tailored to the specific needs of the farm. Below are the primary components:

#### **Farm Perimeter and Access Control**

- Establishing a secure perimeter with fences and gates helps prevent unauthorized entry of animals, vehicles, and people, reducing the risk of disease introduction.
- Controlled access points, visitor logs, and clear biosecurity signage further enhance farm security.

#### **Animal Health Management**

- **Quarantine:** New or returning animals should be isolated for a minimum period to monitor for signs of disease before integration with the main herd.
- **Vaccination:** Implementing a comprehensive vaccination program helps protect against common diseases.
- **Routine Health Checks:** Regular veterinary inspections ensure early detection and management of potential health issues.

#### **Sanitation and Hygiene**

- Proper cleaning and disinfection of equipment, vehicles, and facilities are critical to minimizing the risk of pathogen spread.
- Regular cleaning of milking equipment and storage tanks ensures milk safety and prevents contamination.

#### **Feed and Water Safety**

- Contaminated feed and water

are common sources of disease. Farmers should source feed from reliable suppliers and ensure water is clean and free from pathogens.

- Proper storage of feed to prevent contamination by pests or mold is equally important.

#### **Pest and Wildlife Control**

- Rodents, birds, and other wildlife can carry diseases and contaminate feed and water sources. Implementing control measures, such as traps, barriers, and deterrents, is essential.

#### **Employee Training and Awareness**

- Workers play a pivotal role in maintaining biosecurity. Regular training ensures they understand and adhere to biosecurity protocols.
- Educating employees about the signs of disease enables early identification and prompt action.

#### **Disease Monitoring and Record-Keeping**

- Maintaining detailed records of animal health, vaccination, and treatment histories is crucial for monitoring herd health and identifying trends.
- Implementing systems for disease reporting ensures swift response to potential outbreaks.

#### **Challenges in Implementing Biosecurity**

Despite its importance, biosecurity implementation can face several challenges:

- **Cost Constraints** Many biosecurity measures require financial investment in infrastructure, training, and equipment. Small-scale farmers, in particular, may struggle to afford these expenses.
- **Lack of Awareness** Not all farmers are fully aware of the importance of biosecurity or the best practices for their farms,

leading to inconsistent implementation.

- **Compliance and Enforcement** Even with established protocols, ensuring consistent adherence by workers and visitors can be difficult. Effective enforcement mechanisms and regular audits are needed.
- **Wildlife Interactions** Completely preventing contact with wildlife or external animals may be impractical, especially in regions with abundant wildlife populations.
- **Antimicrobial Resistance** Overreliance on antibiotics as a fallback for disease outbreaks can lead to AMR, highlighting the need for preventative measures and judicious use of medications.

### Practical Steps to Improve Biosecurity

- 1. Develop a Biosecurity Plan**  
Every farm should have a tailored biosecurity plan based on its specific risks and needs. The plan should be developed in consultation with veterinarians and other agricultural experts.
- 2. Foster a Culture of Biosecurity**  
Encourage everyone on the farm, from workers to visitors, to take biosecurity seriously. Clear communication and leading by example are key.
- 3. Invest in Infrastructure**  
Upgrades such as dedicated quarantine facilities, proper fencing, and effective waste management systems can significantly enhance biosecurity.
- 4. Collaborate with Neighbors**  
Diseases can spread between farms, especially in regions with dense farming operations. Collaborative efforts, such as synchronized vaccination programs and information

sharing, can benefit the entire community.

- 5. Leverage Technology** Modern technologies, such as electronic health records, GPS tracking of livestock, and automated cleaning systems, can streamline biosecurity practices and improve efficiency.

### The Role of Policy and Regulation

Governments and industry bodies play a vital role in promoting biosecurity. Policies and regulations ensure that farms adhere to minimum standards, while support programs can help farmers implement necessary measures. For example:

- Subsidies or grants can alleviate the financial burden of biosecurity investments.
- Training programs can raise awareness and build capacity among farmers.
- Disease surveillance systems enable early detection and containment of outbreaks.

### Future Directions in Dairy Biosecurity

As the dairy industry evolves, biosecurity will continue to adapt to new challenges and opportunities. Key trends include:

- **Sustainable Practices** Integrating biosecurity with sustainability efforts, such as reducing antibiotic use and minimizing waste, will become increasingly important.
- **Data-Driven Decisions** The use of big data and artificial intelligence in monitoring animal health and predicting disease outbreaks can revolutionize biosecurity.
- **Global Collaboration** In an interconnected world, diseases can cross borders quickly. International cooperation on biosecurity standards and research will be crucial.

### Conclusion

Biosecurity is more than a set of protocols; it is a commitment to safeguarding animal health, farm profitability, and public well-being. In the face of increasing disease threats and environmental challenges, robust biosecurity measures are indispensable for the future of dairy farming. By prioritizing prevention, fostering awareness, and investing in innovation, the dairy industry can build a resilient and sustainable foundation for generations to come.







# Animal Disease Prevention

Domesticated and wild animals, including livestock and wildlife, are vital to human society, contributing significantly to both economic and ecological systems. They provide essential resources such as food, fibre, and labour, and play a key role in maintaining biodiversity and ecosystem services. However, the health of these animal populations is constantly under threat from a variety of infectious and non-infectious diseases, which can lead to significant morbidity and mortality. These adverse effects not only impact the animals themselves but also have far reaching consequences for human communities, particularly in sectors such as agriculture and public health. A robust understanding of veterinary epidemiology and the application of biosecurity measures are essential for safeguarding animal populations and, by extension, human health.

Disease prevention forms the cornerstone of public health initiatives and is aimed at reducing the occurrence, transmission, and impact of diseases on populations. This is especially critical when

considering the health of animals, particularly livestock, which are integral to human well-being. Livestock serve as a primary source of nutrition, economic security, and livelihoods for millions of people worldwide. Additionally, the health of animal populations is closely linked to the health of human populations, given the potential for zoonotic diseases those that can be transmitted between animals and humans to arise and spread.

Disease prevention in animals involves a multi-faceted approach, encompassing a broad understanding of the relationships between humans, animals, and the environment. Epidemiology, the study of the distribution and determinants of disease, plays a central role in understanding how diseases emerge, spread, and persist in animal populations. Effective prevention and control strategies must consider the various ecological, social, and economic factors that contribute to disease dynamics. These strategies are typically classified into four levels—primordial, primary, secondary, and tertiary

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prevention—with each targeting a specific stage in the disease process. Recently, a fifth level, quaternary prevention, has been added to address the prevention of over-medicalization. This structured approach to prevention not only ensures that diseases are tackled at multiple stages of their development but also provides a framework for developing comprehensive health policies for animals. Through the implementation of these preventive strategies, it is possible to maintain the health of animal populations, mitigate the economic losses caused by diseases, and protect human populations from zoonotic infections.

### **Classification of Prevention**

- **Primordial Prevention**

Primordial prevention is concerned with addressing the underlying social, environmental, and economic factors that contribute to the emergence of diseases. At this level, the focus is on creating environments that reduce the likelihood of disease development by tackling the root causes. In human health, this may involve policies aimed at promoting healthy behaviors or improving living conditions. In the context of animal health, primordial prevention entails improving the overall conditions in which animals live to minimize their exposure to harmful factors.

For instance, ensuring that livestock have access to clean

water, adequate shelter, and proper nutrition are fundamental steps in primordial prevention. Poor living conditions, such as overcrowding, unsanitary environments, and poor waste management, can create breeding grounds for infectious diseases. Addressing these environmental factors helps reduce the overall disease burden in animal populations, thereby decreasing the risk of disease transmission to humans.

- **Primary Prevention**

Primary prevention aims to stop diseases before they occur by reducing exposure to risk factors and enhancing the resistance of animals to infections. This level of prevention focuses on healthy individuals or populations and seeks to prevent the onset of diseases through various interventions. In veterinary medicine, primary prevention includes vaccination programs, health education, and management practices designed to limit animals' exposure to infectious agents.

Vaccination is one of the most effective tools for preventing disease in livestock. For example, vaccines are commonly used to prevent diseases such as foot-and-mouth disease, rabies, and avian influenza, all of which can have devastating effects on animal populations and cause significant economic losses. In addition to vaccines, primary prevention may involve the implementation of biosecurity

measures, such as quarantining new animals, disinfecting equipment and facilities, and controlling the movement of animals to prevent the introduction of diseases from external sources.

Nutrition also plays a critical role in primary prevention. Providing animals with a balanced diet rich in essential nutrients can help strengthen their immune systems, making them less susceptible to diseases. In addition to individual farm-level interventions, primary prevention efforts at the national level may involve the development of health policies that regulate animal movement, trade, and transportation to prevent the spread of infectious diseases across borders.

- **Secondary Prevention**

Secondary prevention focuses on the early detection and treatment of diseases to prevent their progression and limit their impact. This level of prevention is particularly important for detecting diseases in their early stages, often before animals exhibit clinical symptoms. Early diagnosis allows for timely intervention, which can reduce the severity of the disease and limit its spread within animal populations. Screening programs are a key component of secondary prevention. In livestock, this may involve routine testing for diseases such as tuberculosis, brucellosis, or parasitic infections. Diagnostic tools, such as serological tests,

molecular diagnostics, and imaging techniques, are used to identify diseases at an early stage, enabling veterinarians to implement control measures quickly.

In addition to disease screening, secondary prevention includes the use of treatments to manage early-stage diseases. By providing appropriate medical care early on, secondary prevention aims to minimize disease transmission, prevent complications, and improve the overall health outcomes of affected animals. Veterinary professionals play a key role in monitoring animal health, conducting routine examinations, and advising farmers on the necessary steps to take when disease is detected.

- **Tertiary Prevention**

Tertiary prevention is concerned with managing diseases that have already progressed to an advanced stage, focusing on preventing complications, reducing morbidity, and improving the quality of life for affected animals. This level of prevention involves the treatment of established diseases and the implementation of measures to prevent further spread.

In the case of livestock, tertiary prevention may involve the treatment of diseases such as mastitis, pneumonia, or parasitic infections through the use of antibiotics, anti-parasitic agents, or supportive care. Rehabilitation programs are

also part of tertiary prevention, ensuring that animals recover fully after treatment and reducing the likelihood of relapse.

In addition to individual animal care, tertiary prevention also includes efforts to contain disease outbreaks within animal populations. Culling infected animals, for example, is a common practice in livestock management to prevent the spread of highly contagious diseases. While this measure is often seen as a last resort, it can be necessary to prevent the widespread dissemination of infectious agents, especially in the case of zoonotic diseases that pose a risk to human health.

- **Quaternary Prevention**

Quaternary prevention is a more recent concept that focuses on protecting individuals from unnecessary or excessive medical interventions. In veterinary medicine, quaternary prevention aims to avoid over-treatment or the use of interventions that may cause harm or have little benefit. This is particularly relevant in the context of antimicrobial resistance, where the overuse of antibiotics in animal populations has contributed to the rise of drug-resistant pathogens.

By promoting responsible use of medications and emphasizing the importance of evidence-based veterinary practices, quaternary prevention seeks to minimize the risk of

harm associated with over-medicalization. It encourages veterinarians to carefully weigh the risks and benefits of treatments and to consider non-invasive or preventive alternatives when appropriate.

## **The Role of Biosecurity in Disease Control**

Biosecurity is an essential component of disease control in animal populations, particularly in livestock management. It refers to the set of practices and measures that are implemented to prevent the introduction and spread of infectious diseases. By maintaining high biosecurity standards, farms can reduce the risk of disease outbreaks, protect animal health, and safeguard public health by minimizing the potential for zoonotic transmission.

### **Key biosecurity measures include:**

Access Control: Restricting access to animal facilities to prevent the introduction of pathogens. This may involve limiting access to essential personnel, using protective clothing, and disinfecting vehicles and equipment that enter the premises.

1. **Animal Movement Control:** Managing the movement of animals to prevent the spread of disease. This includes isolating new animals before introducing them to the herd, monitoring the health status of animals being transported, and enforcing regulations for the safe transport of livestock.



2. **Hygiene Practices:**  
Maintaining cleanliness in animal housing, feeding areas, and equipment to reduce the risk of contamination. Regular cleaning and disinfection, proper waste disposal, and the use of protective clothing are essential for minimizing the spread of disease.
3. **Health Monitoring:**  
Conducting routine health checks and surveillance to detect early signs of disease. This allows for prompt intervention and helps prevent the spread of infectious agents within animal populations.
4. **Vaccination and Treatment:**  
Ensuring that animals are regularly vaccinated and treated for common diseases to reduce the risk of outbreaks.

By implementing these measures, farms can maintain healthy animal populations and reduce the likelihood of disease transmission to humans. Biosecurity is not only important at the individual farm level but also at regional, national, and global levels. Governments and international organizations play a crucial role in enforcing biosecurity standards, monitoring animal health, and responding to disease outbreaks to protect both animal and human populations.

### **Conclusion**

The prevention and control of

diseases in animal populations are critical for ensuring the health and well-being of both animals and humans.

The interconnectedness of human and animal health underscores the importance of comprehensive disease prevention strategies. Globalization, increased trade, travel, and migration have contributed to the rapid spread of diseases across borders, while environmental changes such as climate change and urbanization have created new challenges for disease control. Additionally, the misuse of antibiotics has accelerated the development of antibiotic-resistant pathogens, posing a serious threat to both human and animal health.

To address these challenges, it is essential to adopt a multidisciplinary approach that combines veterinary epidemiology, biosecurity, and public health measures. Preventive strategies must be implemented at every level—primordial, primary, secondary, tertiary, and quaternary—to effectively manage and control the spread of diseases in animal populations. By fostering collaboration across sectors and ensuring that preventive measures are scientifically sound and appropriately applied, we can protect both animal and human health, promote sustainable agriculture, and safeguard global public health.

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# Hygiene in Dairy Industry:

## Basic Standards

### Introduction

Hygiene in the dairy industry is crucial for ensuring the safety and quality of milk and dairy products. Unhygienic working conditions and contamination concerns persist in the dairy industry as the chain of production grows more intricate. If appropriate hygiene procedures are not followed, milk is one component with a short shelf life and is particularly vulnerable to adulteration and microbial development. The dairy products intended for human consumption must be free from harmful pathogens such as Salmonella, Brucella, Mycobacterium, Campylobacter, Listeria, Leptospira, Yersinia, E. coli etc. These microorganisms can lead to severe illnesses, especially in older people, pregnant women, young children and people with weakened immune systems.

The contamination of dairy products can occur via various sources such as unhygienic production and storage processes, handlers and equipment, environment and packaging materials. To avert the risks associated with poor standards of food safety prevalent in the dairy industry, it has become imperative for dairy farms and production units to stay compliant with Good manufacturing practices (GMP), Good Hygiene Practices (GHP) and Hazard Analysis Critical Control Point (HACCP) guidelines.

### Importance of Maintaining Good Hygiene in Dairy Plants

Milk is a perishable food product and easily falls prey to microbial

contamination and increased pH levels. This causes dairy products to diminish in quality and taste, if proper hygiene measures are not taken in manufacturing and storage conditions.

Maintaining good hygiene is crucial for the dairy industry to:

- 1) Minimize or prevent contamination caused due to entry of pathogens and bacteria from unhygienic milking procedures, equipment, milk contact surfaces, handlers, storage or packaging conditions
- 2) Ensure highest standards of food safety and improved compliance with regulatory practices defined for the dairy industry
- 3) Provide only highest quality and safe dairy products for end consumers

### Key Hygiene Practices for the Dairy Industry

Important measures to maintain high standards of sanitation throughout the entire dairy production process are outlined here.

#### 1. Milk Production Hygiene

Advanced automated milk production techniques are fast replacing manual milking processes in top-notch dairy farms. However, proper hygiene training should be imparted to everyone involved in the milking process because the two primary contamination sources here are equipment used and handlers.

- 1) Uphold superior hygiene standards in the milking process through the use of modern equipment and advanced



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<sup>3</sup>Assistant Professor, COVAS, SVPUAT, Meerut, Uttar Pradesh

milking monitoring measures

- 2) Prevent contamination through mastitis by proper use of the milking machinery and avoiding over milking
- 3) In-depth training is important to help maintain highest levels of personnel hygiene

## 2. Dairy Plant Hygiene

Effective cleaning and sanitisation play an integral role in preserving mandatory hygiene measures in dairy processing plants. Plant hygiene typically comprises of three segments : a) Processing hygiene, b) Equipment hygiene and c) Personnel hygiene.

- 1) Lack of knowledge pertaining to equipment handling or functioning of machineries is one of the key reasons causing bacterial contamination in milk and other dairy products. To prevent this, it is crucial to impart proper training and ensure routine monitoring of the equipments' working performance. Lubricant contamination should also be prevented.
- 2) Not adhering to equipment cleaning and sanitization standards can also result into contamination through harmful substances such as milk residues, allergens, microorganisms or chemical residues. Therefore, comprehensive cleaning and sterilization of equipment should be undertaken after milk processing
- 3) Only non-corrosive, industry-approved detergents and disinfectants should be used
- 4) Maintain optimal drainage system in the processing area and ensure abundant water supply for effective cleaning
- 5) Using automatic can washer can

help prevent milk surface contamination

- 6) The plant floor should be built with tiles, while the dock should be covered with Iron Grid tiles. Ensure regular scrubbing and cleaning of the floor for optimum hygiene
- 7) Maintaining good personal hygiene is also important to produce high-quality, contaminant-free dairy products. People working in the plant unit should enclose themselves in clean and sterilized work wear, including face masks, hair caps and gloves. Reinforced safety boots or shoes should also be used.
- 8) Refrain wearing jewellery or cosmetics inside the production facility

## 3. Personnel Hygiene

Human beings are the biggest source of dirt, dust and contamination in a dairy plant, affecting quality and safety of the final product. Keeping this mind, modern dairy farms and production plants should implement stringent personnel hygiene guidelines as mentioned herewith:

- 1) Thoroughly wash hands using a high-quality disinfectant or hand-care product before and after leaving the milk processing or production unit. Every time the hands become soiled, they should be cleaned properly before getting back to the work area. Finger nails should be cut short and clean. Do not use performed hand soaps or lotions. Hands must be properly sanitized for critical production areas.
- 2) Any cut or open sore must be reported to the medical centre and covered by a band-aid type coloured dressing
- 3) Implement use of hygienic and sterilized clothing in dairy plant

to prevent product

contamination. The work wear should not be worn when away from the production facility or into the toilet, smoking room or canteen. Proper design of hygiene clothing is essential to prevent the skin from coming into contact with the products.

- 4) Wearing hand gloves is mandatory when handling or packaging the dairy products. Feet should be properly covered with high-quality, disposable shoe caps.
- 5) Dairy plants should also give utmost importance to effective work wear laundry. Modern laundry facility and compliance with highest standards of hygiene is vital for safe, sanitized and reusable clothing

## 4. Dairy Waste Water Hygiene

Lack of proper measures to manage dairy waste water is a primary cause of unhygienic work conditions and spreading of contaminants through various sources. At the same time, most dairy farms and production plants do not have sufficient supply of clean and impurity-free water for rigorous cleaning and sanitization purposes. To maintain proper hygiene and stay compliant to regulatory standards, it is important for dairy plants to implement effective measures for treating dairy waste water. Some of these methods are Aerobic Treatment, Biological Filtration and Activated Sludge.

## Conclusion

Hygiene is one of the key parameters ensuring quality and credibility of any dairy farm or production facility. To comply with industry best practices and ensure highest levels of food safety to end consumers, it is imperative to maintain key hygiene standards and monitor performance.





# Future of Dairy Industry in India: Opportunities and challenges

India possesses the world's largest livestock population, with 537 million animals, positioning it as a leading player in milk production and dairy farming. Dairy farming, an essential complement to agriculture, not only generates employment but also enhances family nutrition and offers a stable income for many among the rural and urban poor. The country's daily milk consumption per person rose from 107 grams to 427 grams in 2020-21, exceeding the global average of 322 grams per person in 2021. As one of the world's top milk producers, India has seen substantial growth in dairy production, processing, and consumption in recent decades. Further, this industry is set for transformative growth driven by technological innovations, shifting consumer preferences, and government initiatives focused on productivity and sustainability improvements.

## Opportunities in dairy industry

India is the largest milk producer globally, accounting for about 25% of the global milk production. The milk production of India has increased 58

percent in last nine years i.e. from the year 2014-15 and 2022-23. India produced approximately 230.58 million metric tons of milk in 2022-23. This remarkable achievement is largely attributed to cooperative models, such as the Amul model, which empowers farmers through collective marketing and processing. Here are some strategic opportunities for growth and innovation in India's dairy industry:-

### Rising Demand of Value Added Products

India's growing population and increasing urbanization are leading to heightened demand for dairy products. The shift in dietary preferences, especially among urban consumers, is driving the consumption of value-added products like cheese, butter, and yogurt. As health consciousness rises, the demand for organic and functional dairy products is also expected to grow.

### Technology for Enhancing Productivity

The integration of technology in the dairy sector is set to revolutionize production and distribution. Innovations such as artificial intelligence, block chain and Internet of Things (IoT) are



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enhancing productivity and traceability. For instance, AI-driven analytics can help farmers monitor the health of their cattle, while block chain technology can ensure transparency in the supply chain.

### **Infrastructure Development**

The Indian government has launched several programs to boost the dairy industry, including the National Dairy Plan (NDP) and the Dairy Processing and Infrastructure Development Fund (DIDF). These initiatives will enhance milk production, improve processing facilities, and promote cooperatives, thereby will increase farmer incomes and ensure a steady supply of quality dairy products.

### **Export Potential**

India's dairy export potential is significant, particularly for products like milk powder, ghee, and cheese. With the global dairy market expanding, Indian producers can capitalize on this opportunity. The government's efforts to improve quality standards and certifications will be crucial in accessing international markets.

Despite the growth of dairy sector, the industry faces challenges, including inadequate infrastructure, fluctuating prices, and increasing competition from imported dairy products.

### **Challenges facing the dairy industry**

#### **Infrastructure Deficiencies**

Despite progress, the dairy sectors are still facing infrastructural challenges. There are significant post-harvest losses because of inadequate transportation and storage facilities. Investment in cold chain logistics and processing units is essential for reducing wastage and improving product quality.

#### **Climate Change**

The impact of climate change poses a serious threat to dairy farming. Extreme weather conditions can affect cattle health, milk production, and feed availability. Sustainable farming practices and climate-resilient breeds will be critical to mitigating these effects.

#### **Price unpredictability**

Factors such as changing demand, international competition, and feed costs contribute to this volatility. Dairy farmers are facing income instability due to fluctuating milk prices. Establishing a more predictable pricing mechanism can help stabilize farmer incomes.

#### **Quality Control**

As the dairy market grows, maintaining quality becomes paramount. Issues related to adulteration and food safety can undermine consumer confidence. Stringent quality control measures and regular inspections are essential to ensure safe and hygienic dairy products.

#### **Mitigation of challenges**

### **Cooperative models**

Cooperatives have played a pivotal role in the success of the dairy sector in India. By providing farmers with access to markets, credit, and training, cooperatives empower rural communities and enhance productivity. The cooperative model encourages collective bargaining, ensuring better prices for farmers and fostering a sense of community. Looking ahead, expanding the cooperative model can help in addressing issues related to scale and efficiency. Cooperatives can also facilitate access to new technologies and training, enabling farmers to adopt modern practices.

### **Sustainable practices**

The future of the dairy industry must prioritize sustainability. Increasing production should not come at the cost of environmental degradation. Implementing sustainable practices, such as integrated farming systems and organic dairy farming, can minimize the ecological footprint. Moreover, enhancing water management and reducing greenhouse gas emissions from dairy farms will be vital in addressing climate change challenges. Encouraging agro ecological practices can help create a more sustainable dairy sector.

### **Innovation in Product Development**

Changing consumer preferences are reshaping the dairy landscape in India. Health-

conscious consumers are increasingly seeking functional dairy products that offer health benefits, such as probiotics and fortified milk. Additionally, the demand for organic and natural products is on the rise, prompting producers to adapt their offerings accordingly. The increasing popularity of plant-based alternatives poses both a challenge and an opportunity for the dairy sector. Traditional dairy producers can innovate by diversifying their product lines to include lactose-free, low-fat, and plant-based options, catering to a broader audience. The future of the dairy industry will likely see an increase in innovation and diversification. Companies will focus on developing new products that cater to changing consumer preferences. For instance, the introduction of dairy snacks, flavored yogurts, and ready-to-drink milk products can attract younger consumers.

### **Supply Chain Management**

Investing in robust supply chain management systems will be essential for efficiency and cost reduction. By leveraging technology, dairy businesses can optimize logistics, reduce wastage, and ensure timely delivery of fresh products to consumers.

### **Research and Development**

To stay competitive, the dairy industry must invest in research and development. This includes breeding programs for high-yielding and disease-resistant cattle, as well as developing sustainable farming practices. Collaborative efforts between government, academia, and industry can drive innovation.

### **Education and Training**

Training programs for farmers on best practices in dairy management, animal husbandry, and financial literacy will empower them to

improve productivity and profitability. Enhancing the skill set of dairy farmers will be crucial for the sector's growth.

### **Conclusion**

The future of the dairy industry in India is filled with potential, driven by rising demand, technological advancements, and supportive government initiatives. However, addressing the challenges of infrastructure, climate change, and quality control will be crucial for sustainable growth. By embracing innovation and focusing on sustainability, the dairy sector can continue to thrive, ensuring food security and enhancing the livelihoods of millions of farmers across the country. The collective efforts of all stakeholders (farmers, cooperatives, government, and consumers) will determine the trajectory of this vital industry in the years to come.





# CLFMA OF INDIA Seminar with AIDA in Association with USGC on 23rd October 2024 at Hotel Fairfield by Marriott, Vadodara

The **DDGS Yatra** recently made a stop in Vadodara, Gujarat, in partnership with USGC. The seminar, themed **“DDGS in India: Production, Handling, and Use,”** featured presentations and discussions on this sustainable feed ingredient. Dr. Uday Pael, Technical Consultant, spoke on the use of DDGS in broiler and layer diets. Dr. Kisan Wadhvani, Research Scientist and Head, and Dr. P.M. Lunagaria, Associate Professor, LRS, VASREU, Kamdhenu University, shared insights on DDGS use in dairy diets. Mr. Amit Sachdev, Regional Consultant, US Grains Council, presented on DDGS storage and handling, while a presentation on Novonosis was well received.

A session on **“DDGS - The Supply Side”** was led by Mr. Akhil Arora, Senior Vice President - Commercial at Globus Spirits, and Mr. Akshat Kejriwal, Director of Grainfuel Distillers Private Limited, Kheda, Gujarat. An open discussion followed with ethanol producers, focusing on DDGS quality and specifications.

During his concluding remarks, CLFMA OF INDIA's Deputy Chairman, Mr. Abhay Shah, introduced CLFMA, which generated significant interest in membership, with several attendees expressing a desire to join. He highlighted the seminar's value in expanding CLFMA's outreach and strengthening industry ties. Reflecting on the experience,

Mr. Abhay Shah noted the high level of engagement, with around 30 participants from academia and industry.

The interaction between DDGS demand and supply stakeholders proved fruitful, with perspectives shared across the board. The need for standardizing DDGS specifications was emphasized. The seminar successfully brought together industry leaders, researchers, and farmers to explore the transformative potential of Distillers Dried Grains with Solubles (DDGS) in animal agriculture. As a sustainable feed option, DDGS enhances livestock nutrition, productivity, and overall farm economics.



# **CLFMA OF INDIA Seminar with AIDA in Association with GEMA and Novonesis on 25th October, 2024, at Palampur**

**CLFMA OF INDIA** and the **All India Distillers Association** organized a seminar in association with **GEMA and Novonesis**, themed **“Feed of the Future. For India. By India,”** on **25th October 2024 at Palampur**. The event was graced by Chief Guest Dr. Naveen Kumar, Hon'ble Vice Chancellor of CSK Himachal Pradesh Krishi Vishvavidyalaya, Palampur; Guest of Honour Dr. Ravinder Kumar, Dean of DGCN, COVAS, CSKHPKV, Palampur; and Dr. APS Sethi, President of the Animal Nutrition Society of India. Dr. Dinesh Bhosale, Past Chairman of CLFMA OF INDIA, attended as a special guest.

The seminar focused on **“Recent Trends in the Use of Distillers' Dried Grains with**

**Solubles (DDGS) in Animal Feeding”** and took place at Dr. GCN College of Veterinary and Animal Sciences. In his inaugural address, Vice Chancellor Prof. Naveen Kumar discussed the deficit in fodder and feed availability in hilly states. He noted that while around 36% of the state's land is designated for pastures and grazing, it provides sufficient feed for only a few months, mainly during the rainy season. Prof. Kumar stressed the need for alternative feeds to address this gap. He explained how the government's policy promoting ethanol as a biofuel has led to increased grain-based production, previously limited to the sugarcane industry. The residual product, DDGS, is rich in vitamins and

minerals, providing a viable solution to meet the nutritional needs of domestic cattle. He emphasized that sustainable and productive animal husbandry can be achieved through customized feed solutions.

Dr. Ravinder Kumar, Dean of the College, highlighted the importance of DDGS in animal feed, while Dr. Shivani Katoch, Head of the Department of Animal Nutrition, welcomed the dignitaries and farmers attending the seminar.

These seminars showcase CLFMA OF INDIA's ongoing commitment to advancing industry knowledge, addressing critical livestock feed issues, and strengthening its network across the sector.





# ICFA appoints Former Union Minister Suresh Prabhu as its new Chairman



New Delhi, Nov 12, 2024: The Indian Chamber of Food and Agriculture (ICFA) has appointed former Union Minister Suresh Prabhu as the new Chairman. Mr Prabhu, a board member of the World Agriculture Forum (WAF) and former Union Minister of Commerce & Industry, and other portfolios in his name have been nominated as chairman by the newly constituted 24 members of the ICFA Board. Mr Prabhu brings decades of experience in public service and a growth-oriented vision for ICFA.

India's first Agri Exports Policy was launched under Mr Prabhu's leadership in 2018, which resulted in unprecedented growth of agri exports from 15 million MT in 2018 to 38 million MT in 2022. His commitment to working collaboratively with stakeholders across the agricultural value chain to create a more resilient food system in India would go a long way to building a robust ecosystem for all stakeholders, especially farmers.

"His extensive experience in the global arena, having served on several UN bodies, and as India's Sherpa for G-7 and G-20 countries, Prabhu is set to lead ICFA in its mission to promote

agro trade, technology and investments in agriculture by expanding ICFA's global presence through collaborations and partnerships," said the outgoing chairman, Dr. MJ Khan.

Speaking on the occasion, Shri Suresh Prabhu said, "I am honoured to take on the role of Chairman of the Indian Chamber of Food and Agriculture. I believe that by harnessing innovation, collaborating across stakeholders, and focusing on policies that benefit both farmers and the entire food and agriculture value chain, we can transform India into a global leader in agriculture and food security. I look forward to working with all stakeholders to realise this vision."

Mr Prabhu added that his greater focus would be reaching out and partnering with farmers' organisations by expanding the ICFA network of State and District Agriculture Councils.

In addition, the new leadership team at ICFA also features Dr Tarun Shridhar (Former Union Secretary) as DG, Dr Ashok Dalwai (Chairman, PM Task Force on DFI) as Co-chair, Dr Meenesh Shah (Chairman, NDDB) and Mr Simon Wiebusch (MD, Bayer Crop Science), as Vice Chairs, who will help the organisation navigate new heights.

"ICFA, through its network of working groups, councils, and strategic collaborations, is committed to

positioning India's agriculture sector at the forefront of global food security and sustainability initiatives," said Dr Ashok Dalwai, Co-Chair, ICFA Board, adding that the Chamber's vision aligns with Shri Prabhu's focus on making Indian agriculture globally competitive and capable of producing high-quality food products for both domestic and international markets.

The Indian Chamber of Food and Agriculture looks forward to Suresh Prabhu's leadership and expertise as it continues to champion the interests of the agricultural sector and contribute significantly to India's economic growth and food security.

## About Indian Chamber of Food and Agriculture

The Indian Chamber of Food and Agriculture is the apex body in India, working on business, policy, and development agendas and serving as a global platform for trade facilitation, partnerships, technology, and agribusiness services.

In a short period of more than seven years, the Chamber has signed MoUs with the ICAR, APEDA, NRDC, RAKEZ Group, ASYAD Group, University of California, University of Maryland, Michigan State University, Iowa State University, Western Australia University, German Agribusiness Alliance, Borlaug Institute for South Asia, African Asian Rural Development Organization, NASSCOM, Sociedad Rural Argentina (SRA), FAMATO, CCI Pau Béarn, IFPRI, etc. Through international partnerships, ICFA envisions mobilising technologies and investments that will catalyse agribusiness and agri-startups.



**Dr. Jacqueline Hughes,**  
**Director General of ICRISAT, to**  
**Assume Role of Secretary General**  
**of the World Agriculture Forum**

Director General of the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), headquartered in Hyderabad, India



**Dr. Jacqueline d'Arros Hughes**, outgoing Director General of the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), headquartered in Hyderabad, India, is set to take up the role of Secretary General of the World Agriculture Forum in mid-November 2024. Her extensive career, marked by ground breaking work in sustainable agriculture, equips her to steer the Forum towards its mission.

Dr. Hughes has over 30 years' experience in agricultural research for development and is highly regarded for her leadership in tackling the pressing global challenges of food insecurity, sustainable agriculture, and rural development in some of the world's most vulnerable regions.

Trained in the United Kingdom, Dr. Hughes holds a PhD from Reading University and began her

career with postdoctoral work before working with national partners in Ghana. Throughout her career, Dr. Hughes has held international leadership positions in prestigious agricultural institutes across Africa and Asia, equipping her with a profound understanding of the unique challenges faced by these regions.

A distinguished plant virologist, Dr. Hughes has strong interests in remote sensing, digitalisation, and gender equity. She continues to champion the integration of modern technologies, plant quarantine best practices, and the ethical use of intellectual property to enhance agricultural outcomes. Dr. Hughes believes in both working locally for global impact and working globally for local impact.

As Director General of ICRISAT, Dr. Hughes adeptly led the Institute through the global pandemic, achieving significant milestones despite unprecedented challenges. Under her leadership, ICRISAT was honoured with the Africa Food Prize 2021 and welcomed the Honourable Prime Minister of India,

Narendra Modi, at the Institute's 50th Anniversary celebrations in 2022. Dr. Hughes further strengthened ICRISAT's influence as a leader in dryland agriculture in 2023, actively participating in the agriculture meetings of the G20 Summit held in New Delhi and serving as co-Chair of the International Steering Committee for the United Nations' International Year of Millets.

**Rudy Rabbinge, Chairman of the World Agriculture Forum**, remarked: "Dr. Hughes brings to the World Agriculture Forum a wealth of experience and a commitment to agricultural innovation that is critical to achieving our mission. Her proven ability to deliver impactful results, her deep understanding of the international agricultural landscape, and her vision for sustainable intensification will strengthen the World Agriculture Forum's position as a leader and partner in addressing food and nutrition security worldwide."

As Secretary General, Dr. Hughes will focus on strengthening alliances and advancing innovative solutions in agriculture,

ensuring the World Agriculture Forum is well-positioned to address the evolving needs of the sector globally. Her appointment is a testament to WAF's commitment to bringing visionary leaders on board.

### **About the World Agriculture Forum**

WAF is a global platform connecting diverse stakeholders to drive sustainable agricultural development through policy advocacy, trade facilitation, and technology-driven solutions. WAF unites governments, farmers, agribusinesses, experts, and development institutions to bridge implementation gaps and drive food systems transformation, supporting the smallholder farmers, agro-ventures, and value chains development for a resilient, food-secure future. With a strong focus on collaboration, innovation, and public-private partnerships, WAF is committed to transforming agriculture worldwide.

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## WAF appoints Dr Ameenah Gurib-Fakim and Carlos Magariños to its board to strengthen global leadership in sustainable agriculture

Amsterdam/ New Delhi, Nov 18, 2024: The World Agriculture Forum (WAF) announced the appointment of two distinguished leaders, namely, Dr. Ameenah Gurib-Fakim, former President of Mauritius and globally recognized scientist, and Mr. Carlos Magariños, an esteemed diplomat and economic strategist from Argentina, to its Board of Directors. Their visionary leadership and expertise will be instrumental in advancing WAF's mission to drive sustainable agricultural development through innovations, policy agenda advocacy, and global development partnerships.

Dr. Gurib-Fakim brings a wealth of experience as a scientist, biodiversity advocate, and the first female President of Mauritius. She has earned global acclaim, including the L'Oreal-UNESCO Prize for Women in Science and recognition as one of Forbes' 100 Most Powerful Women. Reflecting on her new role, Dr. Gurib-Fakim said, "Agriculture faces unprecedented challenges that demand innovative, science-driven solutions. I am eager to contribute to WAF's vision for a

resilient and food-secure world." She added that the challenge of climate change requires global collaborations to work with a sense of urgency to ensure global food security and to save the future generations.

Mr. Carlos Magariños, known for his transformative leadership, became the youngest Director-General of UNIDO at just 35 and has authored 10 influential books on economic innovation. His career spans pivotal roles, including Argentina's Secretary for Industry and Ambassador to Brazil. "WAF is a vital platform for addressing disparities in agriculture," said Mr. Magariños, "I look forward to leveraging my experience of diplomacy and development, industry and international cooperation to promote sustainable food systems and empowering farmers worldwide."

Dr. Jaqueline Hughes, Secretary General of WAF, welcomed the appointments, saying, "Dr. Gurib-Fakim and Mr. Magariños embody innovative spirit and commitment to global progress that define WAF. Their contributions will enhance our ability to address global food security issues, promote

biodiversity, and foster economic prosperity through sustainable agriculture."

With these appointments, WAF reinforces its commitment to bridging gaps in agricultural systems by uniting governments, businesses, and communities, and promoting South-South Triangular Cooperation. The Forum is poised to accelerate global efforts to create a resilient and sustainable food system through policy, trade facilitation, and cutting-edge technologies.

### About the World Agriculture Forum (WAF)

WAF is a global platform connecting diverse stakeholders to drive sustainable agricultural development through policy advocacy, trade facilitation, and technology-driven solutions. WAF unites governments, farmers, agribusinesses, experts, and development institutions to bridge implementation gaps and drive sustainable agriculture and food systems transformation towards a resilient, food-secure future. With a strong focus on collaboration, innovation all along the value chain, and public-private partnerships, WAF is committed to transforming agriculture worldwide.



# Electing to Trade: Policy and Market Dynamics Take Center Stage at USSEC’s “CRUSH CON” in Dubai – Ricky Thaper ([www.rickythaper.com](http://www.rickythaper.com))

In 2024, the "Year of Elections," global leadership shifts are shaping new directions in trade and policy. “CRUSH CON” organised by U.S. Soybean Export Council (USSEC) at Hotel Sofitel Palm Jumeirah, Dubai, embody this year’s theme, “Electing to Trade.” The conference was attended by more than 100 delegates from South Asia; India, Nepal, Pakistan, Sri Lanka besides USSEC Team from Dubai and Senior Soybean Association Board Members from USA, brings into focus the connections between politics, trade and globalisation, particularly within supply chains, economic frameworks, and supply-demand factors.



The first day session opened with welcoming remarks from **Mr. Kevin Roepke, Regional Director - South Asia & Sub-Saharan Africa (SAASSA), US Soybean Export Council**, who introduced the key themes for conference that included **Dr. Harrison Grafos, Regional Agricultural Attaché from the US Embassy**, who discussed market development in the GCC, emphasizing the collaborative efforts between USSEC and USDA. Mr. Kevin Roepke said “Food inflation squeezes the middle class and erodes disposable income. The easiest way to reduce food inflation and thus improve the standards of the middle class is to lean into trade. Through trade, we can make healthier food more affordable and available to the middle class of South Asia.”

**Mr. Jim Sutter, the dynamic CEO of USSEC**, shared insights into the soy industry’s growth and USSEC’s commitment to sustainable solutions in nutrition. emphasized how trade is an integral channel to provide food and nutrition security, Mr. Sutter highlighting its key benefit of moving goods from point of surplus to point of deficit. While trade helps maximize income in producing countries it provides consuming countries with availability of competitively priced products. He discussed the power of comparative advantage citing the example of Costa Rica. While Costa Rica specializes in producing bananas and coffee, the U.S. specializes in soybeans and corn. Through trade, these countries mutually benefit from high quality and competitively priced products.



Mr. Jim Sutter, CEO, USSEC presented a Special Appreciation to Mr. Kevin Roepke, Regional Director - South Asia & Sub-Saharan Africa (SAASSA).



**Mr. Lance Rezac, USSEC Chair**, provided a perspective on how U.S. farmers are meeting the demand for food while remaining environmentally responsible. Mr. Lance Rezac, said U.S. Soybean Export Council (USSEC) focuses on differentiating, elevating



preference, and attaining market access for the use of U.S. Soy for human consumption, aquaculture, and livestock feed in 80+ countries internationally. USSEC members represent the soy supply chain including U.S. Soy farmers, processors, commodity shippers, merchandisers, allied agribusinesses, and agricultural organizations. USSEC is funded by the U.S. soybean checkoff, USDA Foreign Agricultural Service matching funds, and industry.



In a session on "US Soy Policy Needs Post-Election, **Mr. Daryl Cates, Chairman, American Soybean Association (ASA)**, highlighted the priorities for U.S. soy in Congress's lame duck session. He emphasized the value of Market Access Program (MAP) and Foreign Market Development (FMD) funding and the potential impact of future free trade agreements (FTAs) on U.S. soybean exports.

The keynote presentation was by Mr. James Fry, Glenauk Economis. A standout keynote fireside chat, "Electing to Trade," featured former USDA Secretary Mr. Dan Glickman in conversation with Kevin Roepke, exploring how trade policies could evolve following global elections. The first day morning session concluded with the panel "Pakistan Two Years On," sponsored by the South Dakota Soybean Checkoff, where Zain Mahmood and Shahzad Ali Khan shared advancements and partnerships in Pakistan's agricultural sector. CRUSHCON Dubai and

HUNGERCON Dubai continue to bring insightful dialogues, networking, and fresh perspectives toward a sustainable future.



The afternoon sessions of CRUSHCON Dubai continued to delve into the intricacies of global trade and its implications, with a focus on geopolitics, market dynamics, and sustainability. The keynote address on Geopolitical Economics featured **Ms. Trinh Nguyen, Senior Economist for Emerging Asia at Natixis**, who provided insights into the evolving landscape of emerging markets, particularly in Asia. Her perspectives, widely respected across international news platforms, are invaluable for understanding the region's economic pulse. In the session titled Global Oilseeds Spotlight, **Mr. David Mielke, Director at Oil World** in Germany, addressed the relationship between low corn and soybean prices and their potential to drive a global boom in the livestock and poultry sectors. His analysis brought forward important discussions on supply and demand dynamics in the industry.



**Mr. Jaison John, Regional Head of Market Intelligence-South Asia, USSEC** spoke on "How Policies Have Distorted Regional Prices for Feed Ingredients" and shed light on the complexities of trade policies that have affected feed ingredient pricing, making previously affordable sources of animal protein some of the most expensive globally. The Freight Sector Spotlight, presented by Mr. Voytek Chelkowski from Seamind Blue Ocean, highlighted the impact of freight volatility on margins. He emphasized the importance of understanding FOB versus C&F purchase decisions within the current geopolitical climate.





A significant moment came with the SUSS Logo Signing, where Nepal joined the initiative for sustainability, welcoming five companies into the fold, including Valley Group (NP), Kosmo Feed Mills (SL), Adamjee Lukmanjee (SL), Nel Farms (SL), and Ceylon Grain Elevators (SL). Presenting this initiative were Ms. Deeba Giannoulis, Dr. Pawan Kumar and Dr. Athula Mahagama.



The afternoon concluded with a keynote address on US Soy's Commitment to Global Nutrition Security, showcasing the dedication of senior USSEC leadership to enhancing global nutrition.





Recognizing Pioneers Making an Impact in South Asia's Protein Value Chain Each year, through its HungerCon event powered by Right to Protein, USSEC recognizes and celebrates outstanding contributors to the protein value space in South Asia.

**Ms. Deeba Giannoulis, Regional Head of Corporate Affairs-SAASSA**, reflected on the origins of HungerCON and the legacy of past winners who have paved the way for advancing the discourse on nutritional security. **This year's esteemed 'HungerCon Award' was awarded to Dr. Soumya Swaminathan, Chairperson of the M.S. Swaminathan Research Foundation** in India for her pioneering work in integrating science into health policymaking. Other notable nominations included Mr. Iqrar Ahmad Khan, Vice Chancellor, University of Agriculture in Faisalabad, Pakistan and Mrs. Vibha Ahuja, Chief General Manager, Biotech Consortium India Limited from India.



The second day of CRUSHCON Dubai 2024 brought forward insightful discussions and innovative solutions aimed at advancing sustainability and global nutrition. **Ms. Deeba Giannoulis, Regional Head of Corporate Affairs-SAASSA**, introduced the Soy Sustainability Assurance Protocol, showing how companies can integrate this framework to promote sustainable practices. She spotlighted businesses that have adopted the SUSS logo, signalling their dedication to eco-friendly initiatives within the soy industry.



Ms. Christelle Cordahi, Regional Human Utilization & Nutrition Consultant at USSEC, presented on the importance of incorporating diverse protein sources, both animal and plant-based, to support a balanced diet. Her insights underscored the essential role of soy in overall health.



**Ms. Tori Sorensen, Chair of the SEC Global Advisory Panel**, shared the impressive growth and influence of the Soy Excellence Center (SEC) worldwide, which have significantly contributed to knowledge sharing and training in the soy sector. By providing free, accessible and comprehensive training options, Soy Excellence Center empowers professionals to stay updated with the latest trends and innovations in their fields. Soy Excellence Center courses adds tremendous value to industry workforce engaged in the protein value chain.



▲▲▲ Ms. Tori Sorensen, Chair of the SEC Global Advisory Panel, presented the ceremonial SEC lapel pin to Mr. Ricky Thaper, Regional Advisory Council (RAC) Member, Soy Excellence Center-India.



**Dr. Tom D'Alfonso, Director of Animal & Aquaculture at USSEC**, highlighted the value of optimizing feed nutrient profiles, stressing that not all soy is created equal. He described how U.S. soybean meal is tailored to maximize nutritional benefits for poultry, fish, and shrimp. In an insightful session, Will McNair, Global Head of Human Utilization at USSEC, discussed the complexities of soybean oil processing. He explained how factors such as damage, maturity, and moisture levels significantly affect the quality of soy oil, emphasizing how U.S. soybeans lead in optimizing refinery operations.



▼▼▼ The day concluded with a wrap-up by Mr. Kevin Roepke, summarizing key outcomes and insights from the sessions. He emphasized the collaborative spirit of the conference and its potential to drive positive change in the agriculture and nutrition sectors. Mr. Daryl Cates, Chairman, American Soybean Association, offered a vote of thanks, expressing gratitude to all participants and speakers for their valuable contributions and commitment to advancing global nutrition security.





The CRUSHCON Dubai 2024 has truly set the stage for dynamic and impactful discussions. These conferences are a testament to the dedication of global leaders and experts in the fields of agriculture, nutrition, and sustainability. By bringing together thought leaders, industry professionals, and innovators, the events are fostering meaningful dialogue that is shaping the future of food systems.

## 3 FEATHERS—CREATING SOLUTIONS USING US SOY



The focus on sustainable practices and solutions demonstrates a strong commitment to addressing global challenges, ensuring a healthier and more secure future for all. It's inspiring to witness how these platforms continue to empower collaboration and inspire change on such a significant scale.

# Regional Review Meeting in New Delhi Assesses Progress in Strengthening Animal Husbandry and Dairying Sector for Northern States/UTs

## Key Strategies Discussed to Boost Livestock Sector: Vaccination, Fodder Cooperatives, Disease Control

A Regional Review Meeting of the Northern States/UTs was held on 12th November 2024 in New Delhi under the chairmanship of Smt. Alka Upadhyaya, Secretary, Department of Animal Husbandry and Dairying (DAHD) under the Ministry of Fisheries, Animal Husbandry and Dairying. The meeting brought together Additional Chief Secretaries, Principal Secretaries, Secretaries, Directors and scheme officers from the Animal Husbandry and Dairying Departments of the Northern States/UTs including Punjab, Haryana, Uttar Pradesh, Jammu & Kashmir, Ladakh, Himachal Pradesh and Uttarakhand to discuss the progress of various departmental programs and schemes. Key officials of the department including Ms. Varsha Joshi, Additional Secretary and Shri Jagat Hazarika, Adviser (Statistics) were also present for the meeting.



During the meeting, Secretary DAHD reviewed the physical and financial progress of several key schemes, including the Rashtriya Gokul Mission (RGM),

Entrepreneurship Development under the National Livestock Mission (NLM), the National Animal Disease Control Programme (NADCP) and the National Programme for Dairy Development (NPDD). During the meeting, progress of Government of India's flagship LHDCP (Livestock Health and Disease Control Program), which focuses on vaccination against major diseases such as Foot-and-Mouth Disease (FMD), Brucellosis, PPR (Peste des Petits Ruminants) and Classical Swine Fever (CSF) was also reviewed, with discussions on the status of six-monthly vaccinations for cattle, buffaloes, sheep, and goats.

Discussions were also held on several other topics including components under Assistance to States for Control of Animal Diseases (ASCAD), the operationalization of Mobile Veterinary Units (MVUs) and the formation of "Pashukalyan Samities." Smt. Alka Upadhyaya, urged the states to speed up vaccinations and increase reporting to prevent disease spread. She underscored the need for sero-surveillance and mentioned that the Foot and Mouth Disease (FMD) Free-zones should be a focus. Highlighting the importance of growth in the dairy sector, she emphasized upon the need to increase processing capacity and diversifying dairy products.

Secretary, DAHD encouraged the States to spend funds for interest subvention under NLM. She asked



the states to monitor claim-to-settlement ratio and review the progress constantly. On the issue of fodder production, she requested all the states to constitute fodder cooperatives. Increasing the coverage of the organized dairy sector, promoting Entrepreneurship Development Program (EDP) especially in the Goat, Pig and Poultry sector and optimising the infrastructure and wealth creation by taking the benefits of NLM and AHIDF were highlighted as strategic approaches to strengthen the livestock sector in the Northern region. Secretary, DAHD also emphasized the collective responsibility of all stakeholders to ensure the success of the ongoing 21st Livestock Census that plays a critical role in shaping future policies and programs for the Animal Husbandry sector and called for leveraging the latest technologies to achieve its successful implementation.



# Department of Animal Husbandry and Dairying Announces the Prestigious National Gopal Ratna Award 2024 Winners

Union Minister Shri Rajiv Ranjan Singh to Felicitate the Winners  
on 26th November 2024, National Milk Day in New Delhi

**Special Awards for North Eastern States Added;  
Will Give Boost to Dairy Development in the Region**

The Department of Animal Husbandry and Dairying (DAHD) declared the winners of the National Gopal Ratna Awards (NGRA); one of the highest National Awards in the field of livestock and dairy

sector for the year 2024. These awards will be given on the occasion of National Milk Day celebrations on 26th November 2024 at Manekshaw Centre, New Delhi. The Awards to the

winners will be conferred by Union Minister, Shri Rajiv Ranjan Singh alias Lalan Singh, Ministry of Fisheries, Animal Husbandry and Dairying in the august presence of Prof. S.P. Singh Baghel and Shri

S. No.	Category	Name of the winners of NGRA 2024 with Rank
1.	Best Dairy farmer rearing indigenous cattle/buffalo breeds	<p>1<sup>st</sup> Smt. Renu, Jhajjar, Haryana, 2<sup>nd</sup> Shri Devendra Singh Parmar, Shajapur, Madhya Pradesh, 3<sup>rd</sup> Smt. Surbhi Singh, Bijnor, Uttar Pradesh,</p> <p><b>Special Award in the category for NER:</b> Ms. Juna Tamuli Barman, Bajali, Assam, Mrs Junuma Mali, Morigaon, Assam</p>
2.	Best Dairy Cooperative society/Milk Producer company/ Dairy Farmer producer organization	<p>1<sup>st</sup> The Gabat Milk Producers Cooperative Society Limited, Aravali, Gujarat, 1<sup>st</sup> Milk Producer Cooperative Society Limited Bisanal, Bagalkot, Karnataka, 2<sup>nd</sup> Pratppura Dugdh Utpadak Sahakari Samiti Limited Pratppura, Bhilwara, Rajasthan, 3<sup>rd</sup> TND 208 Vadapathy MPCS Ltd, Cuddalore, Tamil Nadu,</p> <p><b>Special Award in the category for NER:</b> Kamdhenu Dugdha Utpadak Samabay Samitee Ltd Nityananda, Bajali, Assam,</p>
3.	Best Artificial Insemination Technician (AIT)	<p>1<sup>st</sup> Shri Bhaskar Pradhan, Subarnapur, Odisha, 1<sup>st</sup> Mr. Rajender Kumar, Hanumangarh, Rajasthan, 2<sup>nd</sup> Mr. Virender Kumar Saini, Hanumangarh, Rajasthan, 3<sup>rd</sup> Shri V Anil Kumar, Annamayya, Andhra Pradesh,</p> <p><b>Special Award in the category for NER:</b> Shri Md. Abdur Rahim, Kamrup, Assam</p>

**George Kurian**, Minister of State, Ministry of Fisheries, Animal Husbandry and Dairying in a grand function being organized by the department as part of the National Milk Day celebrations 2024.

### **About National Gopal Ratna Awards**

The National Gopal Ratna Awards are conferred with an objective to recognize and encourage all individuals like Farmers rearing indigenous animals, AI Technicians and Dairy cooperative societies / Milk Producer Company / Dairy farmers Producers Organizations working in the sector of animal husbandry and dairying. The Award is conferred in three categories, namely,

- i. Best Dairy Farmer Rearing Indigenous Cattle/buffalo Breeds,
- ii. Best Artificial Insemination Technician (AIT) and
- iii. Best Dairy Cooperative/ Milk Producer Company/ Dairy Farmer Producer Organization.

**From this year onwards, the**

### **Department has incorporated a Special award for North Eastern Region (NER) States, in all the three categories under National Gopal Ratna Awards, so as to encourage and boost the dairy development activities in NER.**

The Award consists of a cash prize of Rs. 5 lakh for 1st rank, Rs. 3 lakh for 2nd rank, Rs. 2 lakh for 3rd rank and Rs. 2 lakh for Special Award for North Eastern Region, along with a Certificate of merit and a memento in the first two categories i.e Best Dairy Farmer and Best DCS / FPO/ MPCs. In case of Best Artificial Insemination Technician (AIT) category, National Gopal Ratna Award-2024 will consist of a Certificate of merit and a memento. The winners were selected out of a total of 2574 applications received that were invited through an online application portal i.e. <https://awards.gov.in>

### **Background**

Livestock sector is a crucial sector of the Indian economy, comprising one third of the

agriculture and allied sector GVA and having over 8% CAGR. At the same time, Animal Husbandry, Dairying and Fisheries activities play a significant role in generating farmer income, particularly among the landless, small and marginal farmers and women, besides providing cheap and nutritious food to millions of people. Indigenous bovine breeds of India are robust and possess the genetic potential to play crucial role in the national economy. In the absence of a specific programme on development and conservation of indigenous breeds, their population has been declining and their performance is below the potential at present. Thus, the Department of Animal Husbandry and Dairying under the Ministry of Fisheries, Animal Husbandry and Dairying, had initiated "Rashtriya Gokul Mission", under National Programme for Bovine Breeding and Dairy Development in December 2014 with a view to conserve and develop the indigenous bovine breeds.







## dsm-firmenich receives market authorization for methane-reducing feed additive Bovaer® in Japan

dsm-firmenich is pleased to announce that Bovaer®, its innovative methane-reducing feed additive, has received market approval for use with dairy and beef cattle in Japan. This approval marks a significant step towards more sustainable agriculture in Japan.

The approval of Bovaer® aligns with the MIDORI strategy, a comprehensive plan aiming at creating sustainable food systems, launched by Japan's Ministry of Agriculture, Forestry and Fisheries (MAFF) in May 2021. One of the key goals is to reduce methane emissions from agriculture. This involves improving the management of livestock manure, promoting R&D and deployment of methane mitigation technologies for more sustainable agricultural practices.

The approval further supports the Japan's commitments as a signatory of the Global Methane Pledge. Japan is committed to a substantial reduction in methane emissions by 2030 (11% versus 2013 levels). With ~4 million beef and dairy cattle, Bovaer® offers an effective solution in support of these national sustainability goals and will support Japanese dairy and beef sectors in their quest to deliver on their sustainability promises to their customers and consumers.

Extensive research has shown that

Bovaer® can greatly reduce methane emissions with just a quarter teaspoon of the additive per cow per day, resulting in on average 30% methane reduction in dairy cows and 45% methane reduction in beef feedlots.

*"We are excited to introduce Bovaer® in support of Japan's environmental ambitions to reduce methane emissions from cattle and make a substantial impact on global climate-change efforts," said Mark van Nieuwland, Senior Vice President Bovaer® at dsm-firmenich. "Together with our existing partnerships with leading Japanese dairy companies, this approval will further accelerate the transformation towards more sustainable farming in Japan."*

This approval is part of dsm-firmenich's global strategy to contribute to sustainable livestock farming, supporting the health of the planet, animals, and people. By reducing methane emissions, dsm-firmenich is helping to create a more sustainable and resilient food system for future generations.

### **About Bovaer®**

Bovaer® is a feed additive for cows and cattle (and other ruminants, such as sheep, goats, and deer) researched and developed over the last 10+ years. Just a quarter teaspoon of Bovaer® per cow per day consistently reduces enteric

methane emission by on average 30% for dairy cows and even higher percentages, on average 45%, for feedlot beef cattle. The feed additive Bovaer® therefore contributes to a significant and immediate reduction of the environmental footprint of dairy and beef products. Bovaer® is now commercially available in 65+ countries and has been tested in over 130+ farm trials, across 20+ countries, resulting in over 80+ peer reviewed scientific publications.

### **About dsm-firmenich**

As innovators in nutrition, health, and beauty, dsm-firmenich reinvents, manufactures, and combines vital nutrients, flavors, and fragrances for the world's growing population to thrive. With our comprehensive range of solutions, with natural and renewable ingredients and renowned science and technology capabilities, we work to create what is essential for life, desirable for consumers, and more sustainable for the planet. dsm-firmenich is a Swiss-Dutch company, listed on the Euronext Amsterdam, with operations in almost 60 countries and revenues of more than €12 billion. With a diverse, worldwide team of nearly 30,000 employees, we bring progress to life every day, everywhere, for billions of people. [www.dsm-firmenich.com](http://www.dsm-firmenich.com)



# EuroTier 2024: World Leading Trade Fair Successfully Powers the Livestock Industry

2,193 exhibitors from 51 countries – Around 120,000 investment-ready visitors from 149 countries - Guiding theme “We innovate animal farming”: forward-looking innovations enhance productivity and competitiveness - Animal welfare, sustainability, digitalization and AI set the pace - EnergyDecentral makes an impression with pioneering concepts for renewable energy and climate protection - FarmRobotix and Inhouse Farming Feed & Food Show celebrate premieres – Next EuroTier, EnergyDecentral, Inhouse Farming Feed & Food Show will take place from 10 to 13 November 2026 in Hanover, Germany

impression, providing relevant key drivers for business in the global livestock farming and energy sectors. A powerhouse of innovations at the highest level, the world's leading trade fair for professional livestock farming and the leading trade fair for decentralized energy, this week played host to 2,193 exhibitors from 51 countries with the latest solutions and technologies for the livestock and the renewable energy sector. Some 120,000 investment-ready visitors from 149 countries took advantage of the international industry meeting place, underlining the leading role of both trade fairs for animal welfare, sustainability,

expressed high satisfaction.



Under the guiding theme “We innovate animal farming”, EuroTier 2024 provided strong drivers for the national and international livestock farming industry. With its broad exhibition and technical program, the DLG (German Agricultural Society) as organizer presented technical innovations that combine productivity, animal welfare and sustainability - from digitalization, robotics and AI to modern solutions for animal housing and health management. Complementing EuroTier, EnergyDecentral offered technologies relating to solar energy, biogas and biofuels, while the new “Inhouse Farming - Feed & Food Show” highlighted new approaches in feed and food production.

“EuroTier and EnergyDecentral 2024 have impressively demonstrated how the drive for innovation and productivity can go



The EuroTier and EnergyDecentral 2024 trade fairs that took place in Hanover, Germany, 12-15 November, have made a strong

digitalization and AI. The trade fairs offered more than 500 professional events and conferences. Exhibitors and visitors

hand in hand. Here in Hanover, we have seen an array of forward-looking solutions for animal husbandry and renewable energies that promote competitiveness, on the one hand, and animal welfare and sustainability, on the other. In times of global challenges, this year's trade fairs have proven that the industry is making the right adjustments and that our exhibitors have the right answers to the entrepreneurial challenges facing the industry," says Freya von Czettritz, CEO of DLG Holding GmbH.

### **High level of satisfaction among trade visitors from Germany and abroad**

"Visitors were extremely satisfied with the range of exhibits and the technical program at EuroTier, EnergyDecentral and Inhouse Farming Feed & Food Show and the specialist topics. This was confirmed by 95 percent in the on-site visitor survey. Particular interest was noted in the topics of management and feeding technology, milking and cooling technology, animal housing and hall construction, feed and genetics as well as current offers for decentralized energy production and alternative feed and food production," said Ines Rathke, Project Manager of EuroTier.

Some 42 percent of visitors came from outside Germany, including many from Austria, Belgium, China, Italy, Netherlands, France, Poland, Spain, Switzerland and Turkey. Buyer groups from the Middle east and Asia looking for technical solutions were also noted. More than 60 registered delegations included representatives from Canada; Iceland; Mexico; Thailand; Ukraine; and the UK. Representatives from governments and agricultural ministries were also

in attendance: The agricultural ministries of the Philippines; Moldova; the State of Nebraska; UK; and Vietnam among others. In addition, 600 journalists from 46 countries used EuroTier and EnergyDecentral to explore the latest trends and innovations.

### **Great interest in the World Poultry Show**



The World Poultry Show at EuroTier once again lived up to its role as a global hub for the poultry industry: breeders, producers and processors took advantage of the opportunity to both identify innovative solutions and explore in-depth the positive market opportunities. As a business platform and professional forum, the World Poultry Show impressed with a high proportion of international visitors and trade visitors of high quality with investment intentions. 97 percent of the professional visitors expressed high satisfaction with their visit. A key focus of the World Poultry Show and the International Poultry Conference, which preceded EuroTier, was on the topic of artificial intelligence in poultry farming.

### **500 International events, including conferences on China,**

### **Philippines, Ukraine and Moldova**

As a leading future platform and think tank for the livestock sector, EuroTier, organized by the DLG together with numerous partners from industry, science and consulting, offered a comprehensive technical program with more than 500 individual events. The focus was on

automation, robotics, AI, animal welfare, sustainability and climate protection in the context of maintaining high production efficiency. The innovation awards for animal husbandry technology and decentralized energy generation presented during the trade fairs highlighted the innovation capability of the exhibiting companies. The Young Farmers Day, including a sold-out young farmer's party housing 2,000 farming professionals, was once again a popular meeting place for young farmers and students with networking, career planning and future-proof animal husbandry at the center.

Hosting several high profile events focusing on livestock issues in Ukraine, Moldova, China and the Philippines, EuroTier offered an international platform for in-depth

discussions at high level for the international animal production industry.

### **Premiere for FarmRobotix and Inhouse Farming Feed & Food Show**



innovative solutions from indoor and vertical farming, including the production of alternative proteins from insects, aquaculture or algae. Visitors were able to sample snacks made from insects as well as algae

compared to the last event. After Germany, most exhibitors came from China, the Netherlands, France, Italy, Spain, Turkey, Denmark, Belgium and the UK. Exhibitors from the Arab region,

The new FarmRobotix platform for robotics, digitalization, automation and AI in animal husbandry celebrated its premiere. Digital systems and solutions are increasingly employed in cattle, pig and poultry housing. Providing farmers with smart decision-making aids and assistance to further optimize work processes to produce more efficiently, the systems promote animal welfare and help reduce workload. This year's "Barn Robot Event" was dedicated to this topic with presentations on the automatic pushing of feed in dairy housing.

For the first time, the "Inhouse Farming Feed & Food Show" platform at EuroTier presented

smoothies while pitches from start-ups and other inspiring discussions and events took place live at the various stages. The Inhouse Farming Feed & Food Show makes one thing clear: Controlled Environment Agriculture, key to new agricultural production systems in the context of global food security, is one of the main tasks of the future.

### **Exhibitors increase by 25 percent reflecting international trend**

The proportion of international exhibitors increased compared to the previous event and amounted to around 65 percent. The total number of exhibiting companies has increased by 25 percent

such as Egypt, Morocco and Algeria, in addition to India were also represented. The number of international pavilions also increased. This year, 25 national pavilions were represented at EuroTier 2024 from three continents, including Bulgaria, Canada, China, Croatia Finland France Spain, US and the UK. 37 start-ups from 16 countries presented their innovative concepts and inventions at EuroTier.

The next EuroTier, EnergyDecentral and Inhouse Farming Feed & Food Show will take place in Hanover, Germany, from November 10 to 13, 2026. Already now, more than 700 companies have registered as exhibitors for the next event.



# FrieslandCampina climbs to second place in Access to Nutrition initiative's Global Index

FrieslandCampina has moved up from the third to the second position in the Access to Nutrition initiative (ATNi) Global Index, a global ranking of food and beverage companies working to make nutritious food more affordable and accessible. This result endorses FrieslandCampina's dedication to health and nutrition, as well as its active role in tackling malnutrition. FrieslandCampina is recognised for the focus, transparency and consistency of its approach and improvement of its products.

FrieslandCampina provides nutritious and affordable dairy products to people in many parts of the world; from young children to seniors. The company is committed to reducing malnutrition and making quality nutrition accessible for everyone, regardless of income. This is done by continuously improving the consumer product portfolio, reducing sugar, fat, and salt without compromising taste and texture. In

countries like the Philippines, Indonesia, Nigeria, and Pakistan, small-packaged dairy products ensure that low-income communities have access to high-quality nutrition daily.

FrieslandCampina is among the nine companies in the Index that have achieved at least 50% of sales from 'healthier' products. ATNi also acknowledges the company's commercial affordability strategy for products classified as 'healthier' through various approaches, like the Broadening Access to Nutrition programme.

Corine Tap, President FrieslandCampina Asia: "At FrieslandCampina, we believe that access to nutritious food is a fundamental human right. Our 'Broadening Access to Nutrition' strategy in Asia addresses the triple burden of malnutrition—undernutrition, micronutrient deficiencies, and rising obesity—by focusing on affordability and accessibility of nutritious dairy products for

families across diverse markets. Insights from our Southeast Asia Nutrition Surveys (SEANUTS) are instrumental in developing targeted, affordable products that meet children's nutritional needs. Additionally, we are collaborating with local governments, health workers, and schools to promote well-balanced diets and active lifestyles. We are pleased that ATNi recognizes our commitment to driving sustainable health outcomes and creating meaningful change."

## About ATNi

ATNi, the Access to Nutrition Initiative, is a global non-profit organization that assesses the world's 30 largest food and beverage producers on their commitments and performance in combating malnutrition. Additionally, the index evaluates how well the six largest producers of breast-milk substitutes comply with international guidelines for the responsible marketing of these products.



# Phibro Animal Health Corporation Completes Acquisition of Zoetis' Medicated Feed Additive Product Portfolio and Certain Water-Soluble Products

Phibro Animal Health Corporation announced the successful completion of the acquisition of the medicated feed additive product portfolio and certain water-soluble products from Zoetis Inc. This acquisition marks a significant step in furthering Phibro's purpose to optimize global animal health and nutrition for better lives and a more sustainable world.

"Adding this new lineup of medicated feed additives and water-soluble products across cattle, swine and poultry will complement and expand Phibro's species and product portfolios, helping customers meet the highest standards of animal care, prevent disease, and enhance nutrition around the world," said Jack C. Bendheim, Chairman, President and Chief Executive Officer of Phibro Animal Health

Corporation. "These products fit Phibro's core competencies and capabilities while complementing our current lineup of vaccines, nutritional specialties and mineral nutrition."

The acquisition includes a product portfolio with more than 37 product lines sold across approximately 80 countries, six manufacturing sites in the U.S., Italy and China, and a team of more than 300 employees who primarily support the manufacturing and distribution activities of the business. The agreement to acquire the business was announced on April 28, 2024.

"This is a win-win-win," noted Larry Miller, Phibro's Chief Operating Officer. "For our customers, it broadens the solution options and expertise that Phibro brings to support animal health globally; for

consumers, it helps continue to ensure that food is produced safely and sustainably; and for our investors, it expands and diversifies our revenue base, ultimately generating funding to support future investment in additional fast-growing animal health product categories."

## About Phibro Animal Health Corporation

Phibro Animal Health Corporation is a leading global diversified animal health and nutrition company. We strive to be a trusted partner with livestock producers, farmers, veterinarians, and consumers who raise or care for farm and companion animals by providing solutions to help them maintain and enhance the health of their animals.

*For further information, please visit [www.pahc.com](http://www.pahc.com).*



# Tetra Pak Endorses the Paris Dairy Declaration on Sustainability at COP29



The Paris Dairy Declaration on Sustainability, an initiative launched by the International Dairy Federation (IDF) and the United Nations Food and Agriculture Organization (FAO) at the IDF World Dairy Summit in October 2024 in Paris, was endorsed by Tetra Pak, a world leader in food processing and packaging solutions, at the United Nations Framework Convention on Climate Change (UNFCCC) Conference of Parties (COP) 29 in Baku, Azerbaijan, on 19 November 2024.

The Paris Dairy Declaration on Sustainability reiterates and reinforces the dairy sector's commitment to a sustainable transition of the whole value chain within all dimensions environmental, social and economic. The Declaration brings to light the tangible commitments undertaken by dairy operators worldwide towards the various UN Sustainable Development Goals, and sends a clear message to governments, decision-makers and the public on the dynamism of the

dairy sector. The Paris Dairy Declaration continues the journey, initiated by the Dairy Declaration of Rotterdam in 2016, to answer the call of the UN 2030 agenda to leave no one behind.

The endorsement took place at the Swedish Pavilion at COP during a bilateral meeting between IDF President Mr. Gilles Froment and Tetra Pak's Executive Vice President for Processing Solutions and Equipment, Mr. Charles Brand.

"This endorsement by a leading company like Tetra Pak amplifies the impact of the Paris Dairy Declaration on Sustainability and exemplifies the global dairy sector's commitment to climate action and the UN Sustainable Development Goals (SDGs). We extend an invitation to all dairy organizations and leaders to sign and endorse the Declaration," said Mr. Gilles Froment, IDF President.

"The Paris Dairy Declaration on Sustainability is an important statement on the dairy sector's

commitment to a sustainable transformation of the whole value chain. Tetra Pak has a long history in the dairy industry, with sustainability at the heart of that journey. Dairy is at the core of our food systems targets where we commit to driving change and being a positive influence on the way food systems can work in the future. We see from our customers a clear desire to drive transformative change. This declaration supports that journey and that is why we are happy to endorse it here today." added Charles Brand, Executive Vice President, Processing Solutions and Equipment, Tetra Pak.

The purpose of the IDF Paris Declaration on Sustainability is to highlight the tangible commitments made by dairy operators across the various pillars of sustainability—climate, nutrition, health, economic security, and natural resource stewardship—while conveying to governments, decision-makers, and the public the dynamism and dedication of the dairy sector.



## Doodhvale Farms Gains \$3 Million Funding Boost to Expand Tech-Driven Dairy Business

Doodhvale Farms, a rising star in India's premium dairy sector, has successfully raised \$3 million in a funding round co-led by Atomic Capital and Singularity Early Opportunities Fund. The round also saw participation from Indigram Labs Foundation, Bharat Founders Fund, and notable angel investors, including Ramakant Sharma, Co-Founder of Livspace; Ankit Tandon, CBO of OYO; Saurabh Jain, CEO of Livspace; and Arjun Vaidya, Co-Founder of V3 Ventures. The infusion of capital will be directed towards expanding the company's operations, strengthening its distribution network, diversifying its product portfolio, and upgrading its technology infrastructure.

Founded in 2019 by Aman J Jain, Ishu Jain, Sanjay Jain, and Sudhir Jain, Doodhvale Farms started with just two Holstein Friesian cows on a single farm near Rohini, Delhi. Today, it operates from a 2.5-acre automated processing facility in Sonipat, Haryana, housing 50 Holstein Friesian cows. Over the years, the company has achieved remarkable milestones, including a 100% year-over-year growth rate and consistent profitability on an EBITDA basis for three consecutive years. Its innovative product portfolio includes offerings like Gaon Jaisa Safed Makkhan, Pure Milk Khoya, and Desi Treats. Currently, Doodhvale Farms serves over 10,000 customers across several key markets, including Delhi, Gurugram, Noida, Faridabad, Chandigarh, and Mohali, cementing

its position as a trusted provider of farm-fresh dairy products.

Commenting on the funding, Aman J Jain, CEO and Co-Founder of Doodhvale Farms, emphasized the strategic importance of the investment. "This marks a significant milestone in our journey to revolutionize India's dairy sector. With this funding, we are poised to expand our reach and enhance our commitment to delivering pure, farm-fresh dairy products to Indian households," he said. The funding partners echoed this optimism. Apoorv Gautam, Founder and Managing Partner at Atomic Capital, highlighted Doodhvale's capital efficiency and unique positioning as India's first vertically integrated online subscription platform for premium dairy products. "We are thrilled to partner with Doodhvale Farms on their ambitious journey to bring world-class quality milk and allied products to India," he remarked. Similarly, Suyash Kela from Singularity Early Opportunities Fund expressed confidence in the brand's growth potential, emphasizing its appeal as a premium, unadulterated offering in the food and beverage sector.

Doodhvale Farms operates in a competitive Direct-to-Consumer (D2C) dairy landscape, alongside players like Country Delight, Sid's Farm, and Akshayakalpa. Telangana-based Sid's Farm recently raised \$10 million, while Akshayakalpa secured \$15 million in 2022, showcasing the sector's strong investment appeal. According to industry reports, the Indian agritech sector, including dairy, is projected to reach a market size of \$30-35 billion by 2025, fueled by increasing consumer demand for premium and unadulterated products.

With its proven track record of growth, profitability, and innovation, Doodhvale Farms is well-positioned to capitalize on the rising demand for high-quality dairy products. The company's commitment to delivering fresh, unadulterated products, coupled with its strategic use of technology and an integrated supply chain, sets it apart as a leader in India's evolving dairy market. This funding marks a new chapter in its journey to scale operations and cater to a broader customer base.

## Amul Defends Global Brand Identity with Delhi HC Injunction Against AMULETI

According to Gujarat Cooperative Milk Marketing Federation Ltd & Anr v Terre Primitive & Ors, CS(COMM) 768/2024, the Delhi High Court has barred the Italian company Terre Primitive from using the mark AMULETI and its stylised version, or any other marks that are misleadingly similar to or identical to plaintiff's well-known dairy brand Amul trademark AMUL in the physical market and online.

In terms of milk processing, the complainant, Gujarat Cooperative Milk Marketing Federation, is ranked ninth globally by the International Farm Comparison Network. It also manages Amul, a well-known dairy company that is well-known across India. Amul was named the world's leading food and dairy brand in the 2024 Brand Finance Food & Drink Report. The ranking of Amul demonstrates its increasing clout in the worldwide market, according to Brand Finance, a global brand value consultant.



AMUL is included among the well-known trademarks of the Indian Trademarks Office and has been a registered trademark in India for many classes since 1958. Additionally, since 1955, the plaintiff has displayed and utilised the AMUL mark in a stylised logo. The mark's widespread domestic and, more lately, worldwide reputation is highlighted by these facts.

The Italian firm Terre Primitiva was found by Amul in August 2024 to be promoting and selling cookies and chocolate-covered biscuits using the name AMULETI on its website and social media accounts on Facebook and Instagram that were available in India.

The plaintiff sued the Delhi High Court for trademark infringement and passing off, claiming that the mark AMULETI violated its well-known trademark AMUL because of visual and linguistic similarities. The plaintiff claimed that the defendants had plagiarised Amul's logo in terms of style, typeface, and presentation, with the suffix "eti" being the only thing that differed. This implied a clear effort to capitalise on Amul's well-established brand awareness. Since the target market was the same for both sides, there was probably consumer misunderstanding. Because of the similarity between the competing marks, customers would think that Amuleti goods are associated with or approved by Amul, which might weaken or even damage the AMUL brand.

On September 9, 2024, the defendants were prohibited from selling, marketing, advertising, promoting, or using the contested mark and its stylised version, as well as any other marks that were confusingly similar to AMUL and its stylised version, by the court, which agreed with the plaintiff and issued

an ex-parte injunction. Social media, e-commerce, the physical market, and any other online platforms are all subject to this decree. The defendants were also told to remove from their website any listings of goods that had the AMULETI mark on them. Additionally, Meta was ordered to restrict URLs that corresponded to the defendants' social media accounts, where the contested items were advertised or promoted. The lawsuit is still pending, and the next hearing is scheduled for January 2025. In addition to being a legal victory, the Delhi High Court's ruling in Amul's favour enhances the company's reputation internationally and sends a strong message about taking proactive steps to prevent well-known trademarks from being violated across international borders.

## **Trade Tensions: US Questions India's Dairy Import Certification at WTO**

India's new dairy import certificate criteria, according to the US, unfairly penalise the country's dairy products when compared to those made locally. The US has sought for a further delay in the implementation of the new rules so that both parties may work out any disagreements.

In a submission to the WTO Committee on Sanitary and Phytosanitary measures last week, the US said, "The United States values its trade relationship with India and looks forward to more discussion regarding the dairy import certificate requirements with the goal of preventing unnecessary

trade disruptions."

India's major dairy imports from across the globe are lactose and milk albumin (such as concentrations of two or more whey proteins), of which the US has a very modest market share behind the EU and New Zealand.

For the import of milk and milk products into India, the Department of Animal Husbandry and Dairying (DAHD) released its integrated veterinary health certificate (VHC) on March 31, 2023. Consignments going to India need the integrated VHC to be approved by the exporting nation's government. The certificate must, among other things, attest to the fact that all procedures have been followed to guarantee that the items meet certain microbiological standards and are free of heavy metal residues, medications, antibiotics, and pesticides.

The US said that the new certification requirement unjustly harmed its exporters in its most recent filing outlining its concerns. The US response noted that Indian restrictions for domestic manufacturing diverge from those requiring foreign government certifications to contain the phrase "never been fed."

The phrase "never been fed" refers to the practice of feeding cattle byproducts of mammals, which is illegal in India. Attesting that "the source animals have never been fed with feeds produced from meat or bone meal including internal organs, blood meal, and tissues of ruminant origin and porcine origin materials except milk and milk products" is one of the general requirements in the veterinary certification requirement for imported dairy and dairy products.

The US said that India should keep in mind that its SPS policies should

be risk-and science-based and that they should be carried out in accordance with its national treatment obligations under the WTO.

The US Department of Agriculture identified dairy products as one of the consumer-oriented products with high potential for US exporters, along with tree nuts, fresh fruit, and processed food and beverages. The US exports \$39 million worth of dairy items to India in FY 2023, but is not a major supplier of milk and milk products to the nation.

In India, the quantity and kind of dairy products that may be imported are restricted by policy. In spite of this, India bought \$363 million worth of goods from across the globe in FY2023, according to a USDA research released earlier this year on "opportunities for US agricultural products in India."

Following appeals from the office of the US Trade Representative and several importers, it was agreed in January 2024 to extend the implementation period by six months. The new health certificate requirement for imports was supposed to go into effect in December of last year. Additionally, the deadline was extended to October 30, 2024.

"We are still working on bilateral talks to address the outstanding problems with India's dairy certificate. We think it would be acceptable for India to give in the meantime," the US proposal said.

## **Nandini Brings Southern Flavor to Delhi's Milk Market, Aims for Aggressive Growth**

A brand war is about to break out in

the North Indian milk market, which is currently controlled by Mother Dairy, a division of the National Dairy Development Board (NDDB), and Amul, the flagship brand of the Gujarat Cooperative Milk Marketing Federation (GCMMF). Karnataka's domestic dairy brand Nandini is poised to enter the market.

The brand will be launched Thursday in the nation's capital by Karnataka Chief Minister Siddaramaiah. In the profitable Delhi market, Nandini will first sell milk and curd.

The Delhi dairy industry was estimated to be worth Rs 72,630 crore annually and is projected to reach Rs 1.87 trillion by 2032, with a compound annual growth rate (CAGR) of 10.7% from 2024 to 2032. The South Indian juggernaut is aiming for this market and intends to soon expand to Ghaziabad, Noida, Gurgaon, and other locations in Haryana, Uttar Pradesh, and Rajasthan.

Managing director (MD) M K Jagadish of the Karnataka Milk Federation (KMF) said, "We will compete and beat them with our quality milk," in response to questions about competition from companies such as Mother Dairy, Amul, Madhusudan, and Namaste India in the North Indian market.

"We purchase around 92 lakh gallons of milk per day, whereas the Karnataka market uses 45–50 lakh litres everyday. We have an excess of 30 lakh litres of milk per day, even after taking other markets into consideration, thus it makes sense for us to take a close look at the market in the North," he added.

KMF, the second-largest dairy cooperative in India, has 2.64 million members and generated around Rs 23,000 crore in revenue in the most recent fiscal year

(FY24). By 2029, it anticipates that the northern venture would have generated a revenue of around Rs 45,000 crore.

One of the leading companies in the Delhi market is GCMMF. In FY24, Amul's group turnover increased from Rs 72,000 crore in FY23 to Rs 80,000 crore. In addition, GCMMF is the biggest farmer-owned dairy cooperative in the world. Its 18 member unions purchase 300 lakh gallons of milk per day from 3.6 million farmers spread over 18,600 villages across Gujarat.

However, Mother Dairy sells over 45 lakh litres of milk per day nationwide, with over 35 lakh litres marketed in Delhi-NCR alone. The Delhi-NCR market was the primary driver of their Rs 15,000 crore in FY24 revenue. In an effort to make India a milk-sufficient country, "Operation Flood" launched Mother Dairy.

"In the first phase, we would transport milk from Karnataka to the Delhi market. We won't think about building our own facilities or making purchases in the North until revenues start to increase', Jagadish said. In several Karnataka milk unions, there is an excess of milk due to the consistent rise in milk output over time. Roughly 90% of farmers who are registered with KMF raise crossbred Jersey and Holstein Friesian cows. Since June of this year, KMF has been attempting to control this excess output by raising the amount of milk in each packet by 50 ml at a minimally higher cost of Rs 2 per packet.

## **India's Dairy Sector Embraces Biotech to Combat**

## Zoonotic Diseases, Boost Yields

The biggest dairy business in the world, India, has enormous obstacles in maintaining disease-free production systems. These will soon be addressed by biotechnology and biomanufacturing policies, according to Dr. Rajesh Gokhale, secretary for the department of biotechnology in the Ministry of Science and Technology.

In his remarks at the Bangalore Tech Summit (BTS) on Tuesday, he emphasised how the combination of genetic innovations and "Precision Fermentation" technologies is anticipated to increase milk yields, lessen reliance on conventional techniques, and lower the risks of zoonotic illnesses.

He emphasised how biotech-driven solutions, such as genetic testing and disease preventive strategies, are already giving farmers the means to fight cattle diseases. In order to maintain safe, sustainable, and high-quality milk supply, Dr. Gokhale said, "these innovations are helping to create disease-free herds."

"Biotechnology is also contributing to sustainable practices by reducing the environmental impact of dairy farming, in addition to ensuring disease-free animals," he said, adding that by enhancing animal health and streamlining production systems, these biotech solutions are poised to guarantee that India's dairy industry can meet the rising demand without sacrificing sustainability or quality.

Dr. Gokhale emphasised the Biomanufacturing Economy, Environment, and Employment (E3) agenda, which harnesses biotechnology to promote social

balance, environmental sustainability, and economic prosperity. In order to advance, he said, India must stay out of the "middle-income trap," which is a problem encountered by nations that have a thriving economy but have a hard time becoming high-income countries.

He emphasised the significance of the twin transitions—digital and green technologies—to promote sustainable development, saying, "India, which is currently in the middle-income category, must create a balanced ecosystem that benefits everyone and technological advancement is key to this transition." He said, "Innovations in these areas will address global challenges like climate change, resource depletion, and waste management, as well as create jobs and boost the economy."

Using examples to highlight these difficulties, Dr. Gokhale pointed out how once-essential goods like clothes today contribute to environmental problems because of waste and overproduction. He emphasised the need of ecological methods and biodegradable substitutes. Similar to this, he emphasised the need to quickly create new employment in agriculture, which employs 40% of India's workers, as the industry becomes more efficient.

Continuous technical innovation, which may promote economic sustainability, is the answer. According to him, this strategy has already revolutionised sectors like IT and has comparable promise for biotech, which might usher in a "bio-revolution."

During the event, Biocon founder Kiran Mazumdar Shaw said, "India has always had plenty of data, but we must now focus on sharing and

annotating it effectively."

For technologies like artificial intelligence, quantum computing, and biotechnology to reach their full potential, she emphasised that well-organised data is essential.

According to her, these developments are transforming biology by providing a better understanding of the intricacies of biological systems, which are nature's most advanced data processors.

She emphasised the use of data in addressing some of the most pressing issues facing the globe. Biology is the key to developing sustainable solutions for everything from food security to climate change and energy storage. Plants, for instance, effectively store solar energy, a mechanism that may serve as inspiration for advancements in human energy systems. However, thorough data annotation and sharing are crucial to learning from such biological models," the Biocon head said.

She underlined how quickly biology is being pushed into new areas by technology. Kiran emphasised the necessity to investigate intuitive intelligence—decision-making based on genetic memory—even if AI's frequent learning process mirrors human intelligence. She emphasised that comprehending this might advance AI, causing it to behave more like the human brain and creating new avenues for study and advancement.

## Ernakulam Milma Dairy to Generate 2.9 GWh Green Energy Annually, Aiding Carbon



## Neutrality

By using green energy to power all of its operations, Ernakulam Regional Milk Producers Cooperative Society (Milma) is poised to become the first dairy in India to run entirely on solar power, marking a significant milestone in the nation's dairy industry.

The 2MW solar power project at Ernakulam Union's Tripunithura factory will be dedicated on November 9 at 10 a.m. by Union Minister of State for Animal Husbandry and Dairy George Kurian. On the same day, J Chinchurani, the state minister of dairy development and animal husbandry, would lay the groundwork for the Milma's Products Dairy Upgrade Project.

Additionally, Dr. Meenesh Shah, the chairman of the National Dairy Development Board, will receive the Central Quality Control Lab's keys from Milma Federation Chairman K S Mani.

The solar-powered dairy project would cost a total of Rs 16 crore, which comprises Rs 6.8 crore from regional union funds and a loan of Rs 9.2 crore from the Dairy Processing and Infrastructure Development Scheme. The project includes 1,890 KW of on-ground solar panels dispersed across 4.7 acres and 8 KV floating solar panels placed in the lake of the dairy property.

According to M T Jayan, chairman of the Ernakulam Union, "the carbon neutral plant heralds the Indian dairy industry's strong commitment to green energy and environmental stewardship."

"In both technological and environmental aspects, the state-of-the-art model solar technology is a welcome change."

It is anticipated that Milma's solar

project would produce 2.9 million units (GWh) of green energy annually, saving Rs 1.94 crore in energy expenses. By planting 100,000 trees a year, it will cut carbon dioxide emissions by 2,400 metric tonnes.

Milma Ernakulam Dairy will become totally solar powered, Jayan said, "by meeting the dairy's entire energy requirement during the day and helping absorb the surplus energy held by the DISCOM during peak and off-peak hours."

KC Kopar Energy Solutions Pvt Ltd tested and commissioned the project with technical advice from ANERT (Agency for New and Renewable Energy Research and Technology, Govt. of Kerala). Strict guidelines were followed throughout the installation of new and renewable components that had been authorised by the Ministry of Energy.

Fronius inverters from Austria, which can tolerate wind speeds of up to 150 km/h, and half-cut solar cells that have been authorised by the BIS are among its essential parts. For smooth monitoring and reporting to KSEB, a supervisory control and data acquisition (SCADA) system has also been installed.

Under the Milma Ernakulam Union, Edappally Products Dairy is also undergoing a significant refurbishment that would cost Rs 4 crore. This comprises a brand-new cold storage facility and extrusion equipment. An investment of Rs 3.75 crore was made to upgrade the factory with cutting-edge machinery.

By boosting milk demand, it would assist Milma Ernakulam Union in satisfying the rising demand from consumers for premium dairy products and in assisting local dairy producers. Ernakulam Edappally

Milma used Rs 8 crore from the National Programme for Dairy Development to create the Central Quality Control Laboratory.

The Edappally laboratory wants to expand its testing capabilities to cover spices and other culinary and agricultural goods in addition to milk and dairy products.

## Merck Animal Health Unveils ALLFLEX® APR Handheld RFID Readers to Enhance Livestock Management

The new ALLFLEX® APR handheld RFID readers, which are intended to increase productivity and efficiency for livestock producers, are now widely available. Merck Animal Health, also known as MSD Animal Health outside of the United States and Canada, is a division of Merck & Co., Inc., Rahway, N.J., USA (NYSE:MRK).

Livestock farmers may handle record gathering more quickly, conveniently, and accurately with the help of the new portable reader family, which provides more storage in a small, durable design.

At the top of the series is the new APR650. Producers may now connect an animal to any information that contains a barcode thanks to this reader's ability to scan barcodes and Electronic Identification tag numbers.

"A smooth flow of information about a particular animal, including its breeding records, wellness information, and production potential, can be obtained by scanning barcodes and delivered

directly to the livestock producer's office," stated Brandt Kreuzer, Merck Animal Health's business development manager. "They can access private, accurate, and trustworthy information about their animals instantly thanks to this technology."

"Any important piece of information can be represented by a barcode, whether it be a DNA sample, genetic records, pedigree, health input, or even a barcode that the manufacturer links to a particular protocol or location-based task," Kreuzer said.

The APR650 saves up to one million records, includes a handy keypad for inputting data, and may be remotely linked to a producer's office.

Another choice is the Allflex APR250, a simpler reader that provides sophisticated remote connection for contemporary mobile information management and can store up to 100,000 electronic ID numbers.

"It is truly revolutionary in providing advanced animal management, and we are thrilled to see producers and veterinarians using these new handheld readers to identify, track, store, and analyse data," Kreuzer said.

Every APR device is ergonomically designed, comes in a sturdy case, and uses noises, vibrations, and flashing lights to confirm readings. The transmission of information from APR to the office is made easier with the free Allflex CONNECT smartphone app.



## Ceva Animal Health Expands European Vaccine Production with New Facility in Hungary

With a presence in 110 countries, Ceva Animal Health is a major participant in the worldwide animal health industry. It recently revealed its newest investment in European vaccine production, building a new facility in Hungary to increase Ceva Phylaxia's capacity.

Through creative research and vaccine development, Ceva Phylaxia, with over a century of experience, aims to battle important cattle illnesses.

This project will create a state-of-the-art 7,000 square metre facility in Monor, Hungary, where Ceva will manufacture fermentation-based multicomponent inactivated vaccines for animals.

In addition to other animal health products, the business said that this investment would enable it to manufacture over 8 billion doses of vaccinations yearly in the new production facility.

A major turning point in a company's history is always the construction of a new facility. We already have a significant historical knowledge in Hungary thanks to our campus in Ceva Phylaxia. "We hope to develop new synergies to promote preventive medicine with the addition of this new production unit in Monor," said Marc Prikazsky, chairman and CEO of Ceva Animal Health. Our dedication to helping farmers throughout the globe by

creating specialised solutions to address new diseases and their variations is shown in this initiative. It represents our goal to further our research and development skills while creating a bright future for our business, partners, and workers in Hungary and beyond.

It is anticipated that the new facility would begin operations by the end of 2026.

According to the announcement, Ceva has been a big supporter of vaccination-based prevention for more than 20 years. The company has made significant investments in preventive medicine to not only fight zoonotic and emerging diseases but also to greatly improve the health of husbandries and help prepare for future pandemics. Presently, Ceva delivers more than 50 vaccinations to combat 19 zoonotic illnesses, with 54% of its R&D spending going towards vaccine development.

Ceva cited its accomplishments, which include creating an mRNA platform for animals in less than three years and becoming the world leader in poultry vector vaccinations as well as broiler and hatchery immunisation. Additionally, the business said that it had worldwide experience with autogenous vaccines.

Under the direction of seasoned vets, Ceva's portfolio comprises pharmaceutical solutions for farm and companion animals, preventive medicine such as vaccines and animal welfare products, and equipment and services for its clients. The company's goal is to provide all animals with the best possible care and well-being by offering innovative health solutions.



# Editorial Calendar 2024

Publishing Month: <b>January</b> Article Deadline : <b>28<sup>th</sup>, Dec. 2023</b> Advertising Deadline : <b>30<sup>th</sup>, Dec. 2023</b> Focus : <b>Opportunities and Challenges</b>	Publishing Month: <b>February</b> Article Deadline : <b>28<sup>th</sup>, Jan. 2024</b> Advertising Deadline : <b>30<sup>th</sup>, Jan. 2024</b> Focus : <b>Budget</b>	Publishing Month: <b>March</b> Article Deadline : <b>26<sup>th</sup>, Feb. 2024</b> Advertising Deadline : <b>28<sup>th</sup>, Feb. 2024</b> Focus : <b>Summer Stress Management</b>	Publishing Month: <b>April</b> Article Deadline : <b>28<sup>th</sup>, March 2024</b> Advertising Deadline : <b>30<sup>th</sup>, March 2024</b> Focus : <b>Cold Chain</b>
Publishing Month: <b>May</b> Article Deadline : <b>28<sup>th</sup>, April 2024</b> Advertising Deadline : <b>30<sup>th</sup>, April 2024</b> Focus : <b>Nutrition</b>	Publishing Month: <b>June</b> Article Deadline : <b>28<sup>th</sup>, May 2024</b> Advertising Deadline : <b>30<sup>th</sup>, May 2024</b> Focus : <b>Milk - Production &amp; Preservation</b>	Publishing Month: <b>July</b> Article Deadline : <b>28<sup>th</sup>, June 2024</b> Advertising Deadline : <b>30<sup>th</sup>, June 2024</b> Focus : <b>Monsoon Management</b>	Publishing Month: <b>August</b> Article Deadline : <b>28<sup>th</sup>, July 2024</b> Advertising Deadline : <b>30<sup>th</sup>, July 2024</b> Focus : <b>Sustainability</b>
Publishing Month: <b>September</b> Article Deadline : <b>28<sup>th</sup>, August 2024</b> Advertising Deadline : <b>30<sup>th</sup>, August 2024</b> Focus : <b>Processing &amp; Packaging</b>	Publishing Month: <b>October</b> Article Deadline : <b>28<sup>th</sup>, September 2024</b> Advertising Deadline : <b>30<sup>th</sup>, September 2024</b> Focus : <b>Disease Prevention</b>	Publishing Month: <b>November</b> Article Deadline : <b>28<sup>th</sup>, October 2024</b> Advertising Deadline : <b>30<sup>th</sup>, October 2024</b> Focus : <b>Biosecurity</b>	Publishing Month: <b>December</b> Article Deadline : <b>28<sup>th</sup>, November 2024</b> Advertising Deadline : <b>30<sup>th</sup>, November 2024</b> Focus : <b>Winter Stress</b>

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