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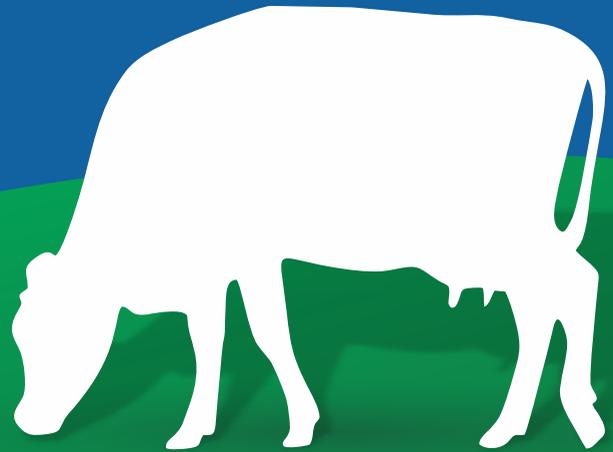
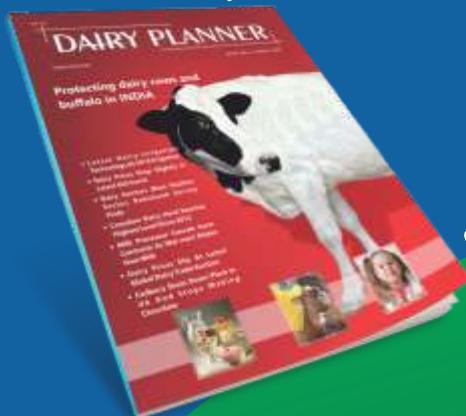
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From the Pen of Chief Editor



Nurturing the Future: Healthy Calf and Heifer Management Practices

Calf and heifer management is crucial for the success and profitability of dairy or livestock operations. The care and attention given to young animals during their early stages greatly influence their productivity, health, and overall well-being. Proper calf and heifer management practices are essential for maintaining optimal health and preventing diseases. Adequate colostrum intake, good nutrition, and a clean and comfortable environment are critical factors in minimizing the risk of illnesses and maximizing growth rates. Well-managed calves and heifers have stronger immune systems, enabling them to resist infections and diseases, resulting in reduced veterinary costs and decreased treatment needs.

Calf and heifer management directly contributes to unlocking the genetic potential of livestock. By providing appropriate nutrition, monitoring growth, and implementing effective breeding programs, farmers can optimize the genetic potential of their animals, leading to improved productivity and profitability. Investing in the early stages of animal development, such as proper nutrition and health care, helps prevent potential setbacks and health issues in the future. Well-grown heifers reach their breeding weight and maturity earlier, resulting in reduced rearing costs and faster entry into the milking or breeding herd. Efficient management also minimizes losses due to mortality, morbidity, and suboptimal growth rates, resulting in higher profitability.

Successful calf and heifer management directly impacts the reproductive success of a herd. By closely monitoring the development and growth of heifers, farmers can ensure they reach breeding age and weight targets in a timely manner. Well-nourished and properly managed heifers have a higher likelihood of achieving early conception and successful pregnancies, leading to reduced calving intervals and increased overall productivity.

Calf and heifer management is a fundamental aspect of livestock farming that should never be underestimated. By implementing proper nutrition, health care, and overall management practices from an early age, farmers can enhance the genetic potential, productivity, and profitability of their herds. This approach promotes animal welfare, reduces disease incidence, and ensures long-term sustainability in the agricultural industry.

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Empowering Farmers: The Transformative Role of Dairy Cooperatives in India

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Introduction

India, with its vast agricultural landscape and a significant rural population, has established itself as the world's leading milk producer. Dairy farming has become a cornerstone of the country's economy, providing livelihoods to millions of rural households. At the heart of this success lies the dairy cooperative movement, which has revolutionized the Indian dairy industry. In this article, we explore the significance and impact of dairy cooperatives in empowering farmers and fostering socio-economic development.

The Rise of Dairy Cooperatives

The roots of the dairy cooperative movement in India can be traced back to the early 20th century when farmers recognized the need to collaborate to overcome challenges and improve their livelihoods. The pioneering effort came in 1946 with the establishment of the Kaira District Cooperative Milk Producers' Union Limited (AMUL) in Anand, Gujarat ^[1]. AMUL's success laid the foundation for the formation of numerous other dairy cooperatives across the nation.

Structure and Functioning

Dairy cooperatives in India operate on a decentralized and member-driven structure. They

are typically organized at the village, taluka (block), or district level, operating under the guidance of primary cooperative societies. These societies are owned and managed by dairy farmers who elect representatives to form a board of directors responsible for decision-making.

The primary functions of dairy cooperatives include procuring milk from farmers, processing and packaging it into various dairy products, and marketing them. Cooperatives provide essential infrastructure such as chilling centers, milk collection points, processing plants, and storage facilities. They also offer technical assistance, veterinary services, and training to farmers, promoting enhanced productivity and improved animal husbandry practices.

Benefits to Farmers

Dairy cooperatives have brought a multitude of benefits to farmers in India:

- a. **Fair Pricing:** By eliminating intermediaries and establishing direct links between farmers and consumers, cooperatives ensure fair pricing for farmers' produce. Members receive a better share of the profits compared to selling milk to

- middlemen.
- b. **Market Access:** Cooperatives provide farmers with access to a wide market network, both within India and internationally. This enables farmers to sell their products at competitive prices and expand their customer base, enhancing their income.
 - c. **Technical Support:** Dairy cooperatives play a pivotal role in imparting knowledge and training to farmers. They educate members about modern dairy farming practices, animal healthcare, and artificial insemination techniques, leading to improved milk production and quality.
 - d. **Collective Bargaining Power:** Through their collective strength, dairy cooperatives negotiate with government agencies, financial institutions, and suppliers to secure favorable terms for their members. This empowers farmers and ensures their voices are heard at various levels.
 - e. **Socio-Economic Development:** The success of dairy cooperatives has had a profound impact on the socio-economic development of rural areas. It has led to poverty reduction, increased employment opportunities,

improved education, healthcare, and overall standards of living.

Success Stories

The achievements of dairy cooperatives in India are best exemplified by the iconic AMUL model, which has transformed the lives of millions of farmers. AMUL, processing over 23 million liters of milk per day, has not only revolutionized milk production and marketing but has also diversified into other dairy products ^[2]. Similarly, Mother Dairy in Delhi and Karnataka Milk Federation (Nandini) in Karnataka have emerged as successful dairy cooperatives, collectively handling millions of liters of milk each day ^[4].

Government Support

The Indian government has played a pivotal role in promoting and strengthening dairy cooperatives. It has implemented policies and provided financial assistance to support the cooperative movement. Schemes like the National Dairy Plan have been introduced to improve milk productivity, cattle breeds, and infrastructure facilities ^[3].

Milk Production Figures

According to data from the National Dairy Development

Board:

India is the largest milk producer in the world, with a total production of 208 million metric tonnes in 2020-21. ^[5]

Dairy cooperatives in India handle around 22% of the total milk produced in the country. ^[2]

AMUL, the largest dairy cooperative in India, procures and processes more than 23 million liters of milk per day. ^[2]

Mother Dairy, a prominent dairy cooperative in Delhi, handles approximately 3 million liters of milk per day. ^[4]

Karnataka Milk Federation (Nandini) processes around 4 million liters of milk per day. ^[4]

Conclusion

Dairy cooperatives have emerged as a driving force in empowering farmers and driving socio-economic development in India. Through fair pricing, market access, technical support, collective bargaining power, and improved living standards, these cooperatives have transformed the lives of rural communities. With continued government support and the dedication of dairy farmers, the cooperative movement will continue to shape the future of the dairy industry, ensuring sustainable livelihoods and a prosperous agricultural sector in India.

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The Key to Productive Dairy Herds Lies in Calf and Heifer Management

Siddhi Gupta

Co-Editor, Dairy Planner

Calf and heifer management is crucial in dairy farming as it sets the foundation for a productive and healthy herd. Proper care and attention during this stage ensure the development of strong, well-grown heifers that will become productive milk-producing cows. Here are some important aspects of calf and heifer management in dairy:

Calving management: Provide a clean and comfortable calving area with ample space to move around and to give birth. A clean and comfortable calving area with clean bedding to reduce the risk of infection improves cow comfort during the calving process.

Ensure that the calving area is well-lit and easily accessible for monitoring purposes. Perform regular checks to detect early signs of labor. Observe cows closely during the calving process and provide assistance if necessary, especially for heifers or cows experiencing difficulties.

After calving, ensure both the calf and the dam are in good health. Monitor the cow for any signs of postpartum issues such as metritis or retained placenta.

Use clean and dry bedding materials, such as straw or sawdust, to create a clean environment for the cow and newborn calf.

Colostrum management: Colostrum, the first milk produced by the cow after calving, is rich in antibodies and essential nutrients.

Ensure that calves receive colostrum within the first few hours after birth to acquire passive immunity. Calves are most receptive to absorbing antibodies during this time. Ideally, calves should consume 10% of their body weight in colostrum within the first 24 hours.

Collect colostrum from the cow within the first six hours after calving for optimal quality and nutrient content. Colostrum should ideally have a high antibody concentration (IgG) of at least 50 grams per liter. Use a colostrometer or refractometer to assess colostrum quality before feeding it to the calf. Warm colostrum to body temperature (around 39°C or 102°F) before feeding it to the calf. Use an esophageal feeder or bottle to ensure the calf consumes the required amount of colostrum.

Feeding: After colostrum, transition the calf to a milk replacer or whole milk. Feed calves at least twice a day. Feed milk or milk replacer to the calf at a temperature of around 39°C (102°F) to mimic the natural warmth of the cow's milk.

Introduce calf starter grain within the first week of age to stimulate rumen development. Gradually increase the amount of calf starter offered and reduce the amount of milk or milk replacer as the calf grows.

Provide clean and fresh water at all times, starting from the first week

of age. Ensure water sources are easily accessible and regularly cleaned.

Housing: Provide clean, dry, and well-ventilated housing for calves and heifers to maintain good air quality and prevent respiratory issues. Individual pens or hutches are commonly used to prevent disease transmission and promote individual care. Clean the pens or hutches regularly and provide clean and dry bedding to promote calf health. Group housing can be introduced as calves grow older, but ensure adequate space is provided to minimize stress and competition.

Health management: Implement a comprehensive health management program, including vaccinations, deworming, and regular veterinary check-ups in consultation with a veterinarian. Monitor calves for signs of illness such as diarrhea, respiratory distress, or poor appetite and take appropriate action promptly.

Vaccinate calves against common diseases such as respiratory infections (e.g., pneumonia), clostridial diseases, and viral infections (e.g., bovine viral diarrhea). Deworm calves regularly following a veterinarian's recommendations to control internal parasites.

Implement biosecurity measures to reduce the risk of disease introduction and transmission. This includes restricting access to the calf area, practicing proper hygiene, and quarantining new animals before introducing them to the calf group.

Growth monitoring: Regularly measure and record the weight and height of calves and heifers to track growth progress. This information helps in identifying any growth or nutritional

deficiencies and allows for adjustments to their diet.

Reproductive management: Develop a heifer breeding program based on specific breeding goals. Monitor heifers' reproductive development and ensure they reach appropriate breeding age and weight before mating.

Consult with a veterinarian to assess reproductive readiness through palpation, ultrasound, or blood progesterone testing. Ensure heifers reach the appropriate breeding age and weight before introducing them to a bull or using artificial insemination.

Implement a heat detection program to identify when heifers are in heat. This may involve visual observation, tail chalk or paint application, activity monitors, or hormone synchronization protocols.

Use artificial insemination (AI) or natural service with a proven bull of suitable genetics to achieve the desired breeding goals.

Training and handling: Train calves and heifers to be handled calmly and gently. This reduces stress and makes routine tasks such as hoof trimming, vaccination, and milking easier and safer.

Gradually expose calves and heifers to different handling procedures such as haltering, leading, and standing in a chute. Train heifers to enter the milking parlor and get accustomed to the milking routine to minimize stress during the transition to the milking herd.

Use positive reinforcement techniques, such as offering treats or rewards, to encourage desired behaviors.

Record-keeping: Maintain accurate records of each calf and heifer, including birthdate, weight, vaccinations, treatments, and breeding information. This information is valuable for monitoring individual performance and managing the herd effectively.

Use a record-keeping system or software to manage and analyze the data effectively. This helps monitor individual performance, identify trends, and make informed management decisions.

Transition to the milking herd: Prepare heifers for the transition to the milking herd by gradually exposing them to the milking parlor environment and training them to the milking routine.

Ensure a smooth transition by minimizing changes in diet, housing, and routines. Gradually integrate heifers into the existing milking herd to reduce social stress and adapt to the group dynamics.

Train heifers to enter the parlor calmly and follow milking procedures, including proper udder preparation, attachment of milking units, and post-milking teat disinfection.

Gradually increase the frequency of milking sessions as heifers adapt to the routine. Monitor heifers closely during the transition phase, ensuring they are milked out completely, and adjust feed rations to support their changing nutritional requirements.

By implementing these detailed strategies and practices for calf and heifer management in dairy farming, farmers can ensure the healthy growth, development, and future productivity of their animals, setting the stage for a successful and profitable dairy operation.



Livestock in a Warming World: Exploring Impact of Climate Change on Livestock and Shaping a Sustainable Path through Adaptation and Mitigation

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Introduction

Climate change is a global phenomenon that is causing significant environmental shifts, affecting every living being on earth. Livestock production is a critical sector in agriculture, providing food, income and employment for millions of people worldwide. Changes in temperature and precipitation will impact crop and livestock productivity, with animals experiencing more thermal stress, leading to decreased feed efficiency, milk production, and reproduction rates. This article

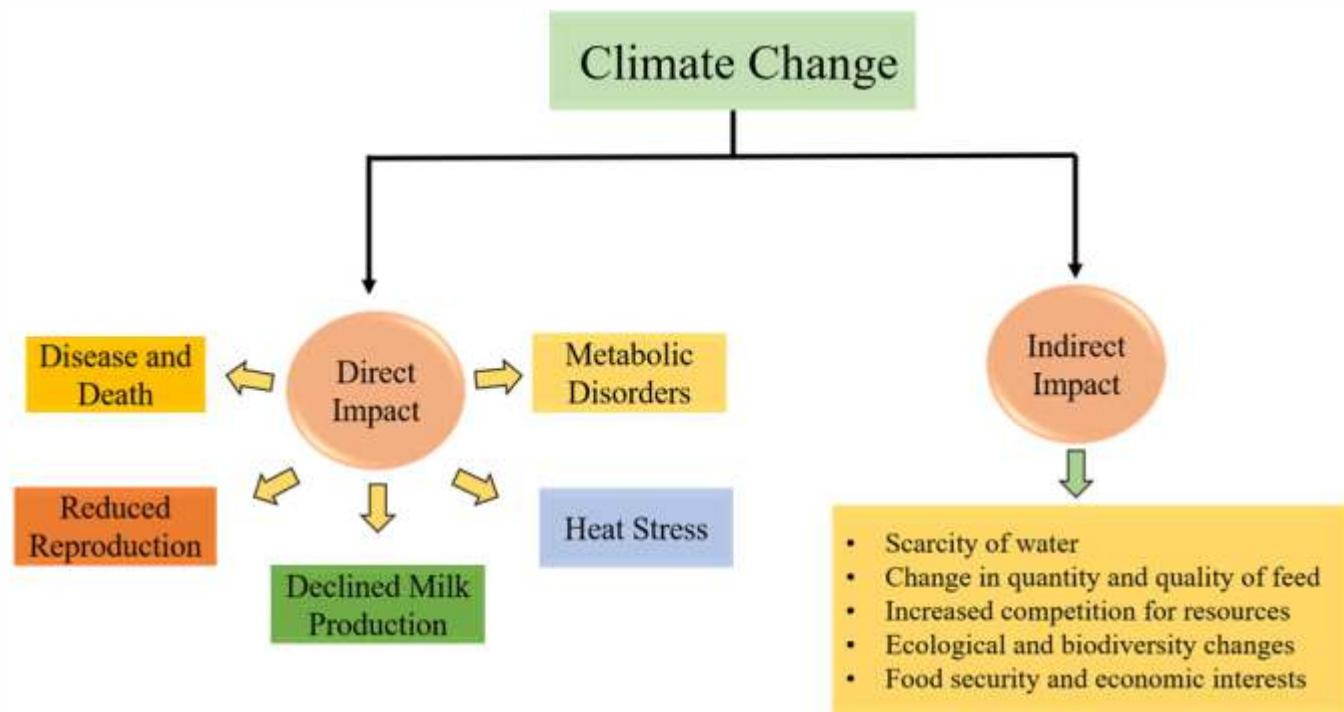
aims to explore the relationship between climate change and livestock production, the challenges it poses, and the strategies to adapt and mitigate the impact.

Climate Change

Climate change is a long-term change in environmental conditions, mainly caused by human activities that lead to increased levels of greenhouse gases in the atmosphere. These gases trap heat, leading to an increase in global temperatures, causing melting of glaciers, sea-level rise, erratic weather patterns,



Figure: Impact of climate change on livestock



and other environmental changes. Since the mid-19th century, the average global temperature has risen by approximately 1°C, and scientific research has shown that human activity, specifically the emission of greenhouse gases, is the primary cause of current climate change. These changes directly impact agriculture, leading to changes in crop patterns, soil degradation, and livestock production.

Impacts of climate change on livestock

- **Heat Stress and Related Health Issues**

The increase in global temperatures has led to a significant impact on livestock health. Animals subjected to high temperatures and humidity often suffer heat stress, leading to reduced productivity and even death. Heat stress occurs when there is an imbalance between the heat produced by the body and the heat that is dissipated. Heat stress also leads to decreased feed intake, reduced milk production, and decreased reproductive efficiency. This results in a significant economic impact on livestock farmers worldwide. When temperatures rise, the body's cooling mechanisms, such as sweating, become less effective, leading to heat stress. The effects of heat stress are not just physical; they can also have a psychological impact. Research has shown that high temperatures can lead to increased aggression and violence.

- **Disease Spread and Death**

Climate change has led to new disease patterns, with some diseases becoming more severe and others re-emerging. Changes in weather patterns provide ideal conditions for the spread of diseases, and this poses a significant challenge for livestock farmers. Parasites and vectors, such as ticks and mosquitoes, thrive in warmer conditions, leading to increased transmission of diseases such as Lumpy Skin Disease, tick-borne fever and West Nile virus. The use of vaccines, animal health management practices, and biosecurity measures can effectively control the spread of diseases.

- **Impact on Reproductive Health**

Livestock reproductive performance is vital to the success of the livestock industry. Climate change impacts livestock reproductive performance, leading to increased infertility, reduced conception rates, and increased embryonic mortality. Exposure to extreme temperatures, especially during pregnancy, leads to reduced fertility and increased fetal mortality. Strategies such as the use of heat-tolerant breeds and management practices can help mitigate the impact of climate change on reproductive health.

- **Impact on Milk Production**

Climate change has a profound impact on the production of livestock, affecting various aspects of the industry. Rising temperatures and changing

weather patterns pose significant challenges to animal health, nutrition, and overall productivity. Heat stress is a primary concern, as livestock are more susceptible to heat-related illnesses and reduced performance. Animals may experience reduced feed intake, impaired digestion, and decreased weight gain, leading to decreased meat and milk production. Climate change has made grazing pastures and water sources scarce, which results in insufficient feed and water for the animals, thereby affecting milk output. The stress from high temperatures can also lower the quality of milk because cows reduce feed intake, leading to fewer calories available for milk production.

- **Metabolic Disorders**

Environmental shifts can significantly disrupt the delicate balance of metabolic processes in livestock, leading to a range of disorders such as metabolic acidosis, ketosis, and fatty liver syndrome. For example, heat stress can cause reduced feed intake and altered nutrient metabolism, resulting in imbalances in energy utilization and electrolyte levels. These metabolic disorders not only compromise the well-being of livestock but also have detrimental effects on their growth, reproduction, and overall productivity.

It is crucial to understand that these disorders can have severe consequences for the livestock industry. The economic impact of metabolic disorders can be

significant, with losses in milk production, reduced fertility rates, and increased veterinary costs. Moreover, these disorders can also have a negative impact on animal welfare, which is a growing concern for consumers and the industry as a whole.

- **Indirect Impacts**

Climate change has several indirect effects on livestock, including water scarcity, changes in feed quantity and quality, increased competition for resources, ecological and biodiversity shifts, and implications for food security and economic interests. As climate patterns alter, water scarcity arises, compromising animal hydration and overall health. Changes in precipitation and temperature disrupt feed production, leading to shortages and inadequate nutrition. Competition for limited resources intensifies among livestock, wildlife, and humans, further straining management. Ecological changes impact forage availability, while biodiversity shifts affect ecosystem services crucial for livestock. These challenges pose risks to food security and livelihoods, underscoring the need for holistic adaptation strategies to ensure water management, resilient feed production, resource allocation, and ecosystem conservation.

Adaptation and Mitigation Strategies

- **Improved Feeding and Nutrition**
Enhanced Feed Quality: As

the impacts of climate change alter the availability and composition of feed resources, it becomes essential to prioritize the quality of livestock diets. Implementing improved feeding strategies involves selecting and utilizing high-quality forage and fodder, incorporating nutrient-rich supplementary feeds, and optimizing feed formulations. This approach ensures that animals receive a balanced and adequate diet, which enhances their resilience to climate-related stressors, such as heat waves or prolonged droughts. By providing optimal nutrition, livestock can better cope with the physiological challenges imposed by changing environmental conditions.

Diversified Feeding

Approaches: To address the uncertainties associated with climate change, diversifying feeding approaches becomes paramount. Incorporating a variety of feed sources can buffer against potential feed shortages or changes in nutritional content. This can be achieved through promoting agroforestry systems, where fodder trees and shrubs are integrated into grazing lands, or by encouraging the cultivation of resilient forage crops. By diversifying feed resources, livestock systems become more adaptable, ensuring a continuous supply of nutritious feed even during climatic disturbances.

- **Improved Diagnosis, Forecasting, and Vaccines**
Advanced diagnostic tools and techniques allow for the early detection and accurate

diagnosis of diseases and health issues in livestock. By investing in innovative technologies, such as molecular diagnostics and remote sensing, we can swiftly identify emerging diseases, assess their severity, and implement timely interventions. In parallel, integrating climate forecasting into livestock management practices is crucial for effective disease prevention and control. Climate change influences the prevalence and distribution of diseases, making it imperative to anticipate and prepare for potential outbreaks. Furthermore, the development and deployment of climate-resilient vaccines are essential to protect livestock populations from the evolving disease landscape. Climate change brings about shifts in disease patterns, altered pathogen strains, and increased susceptibility to infections. To address these challenges, scientists and researchers are working towards developing vaccines that offer broad-spectrum protection, increased efficacy, and improved durability.

- **Physical protection for livestock**

Shade structures: Providing shade structures for animals can help protect them from the heat and prevent heat stress. Shade structures can also help to regulate temperature and provide a comfortable environment for animals. Cattle generally prefer shade from trees rather than constructed structures. Trees

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are effective at blocking incoming solar radiation, and moisture evaporating from their leaves helps cool surrounding air.

Cooling Systems: In addition to shade structures, cooling systems can be installed to help regulate temperature. For example, misting systems, fans, or evaporative cooling systems can help cool animal housing and provide relief during heatwaves.

Rain Shelters: Rain shelters can be installed to protect animals from heavy rainfall and flooding. These structures can also provide a dry area for animals to rest and prevent soil erosion.

Windbreaks: Windbreaks, such as trees or fences, can help protect animals from wind and reduce the impact of wind chill. Windbreaks can also provide shade and help regulate temperature.

- **Early Warning System**

It is designed to help farmers respond to short-term and long-term climatic hazards such as floods, droughts, and storms. To address the deficiencies and strengthen the system, urgent action and measures need to be taken. The expected outcomes of the system include the enhancement of hydrometeorological services and networks for predicting climate change events, effective delivery of climate and climate change information, and improved preparedness and responses of stakeholders to forecast risks and vulnerabilities. Four key elements of a successful early

warning system are risk knowledge, monitoring and predicting, disseminating information, and responding to warnings.

- **Reduce Methane Emission**

Methane is a potent greenhouse gas that contributes to global warming and climate change. Reducing methane emissions is an important strategy for mitigating the effects of climate change. Here are some ways to reduce methane emissions:

Plant Secondary Metabolites (PSMs): Several plant secondary metabolites (PSM) are included in this category, specifically tannins and saponins, which have been thoroughly investigated for their potential to mitigate CH₄. These compounds have been shown to decrease methane production by inhibiting methanogens, the microorganisms that produce methane during digestion. For example, condensed tannins found in some legumes can reduce methane production in ruminants.

Feed processing: Processing feed, such as grinding or pelleting, can increase feed efficiency and reduce methane emissions. Grinding the feed increases its surface area, making it easier to digest, while pelleting can reduce the amount of feed wastage and increase its nutrient density. Both of these methods can reduce the amount of feed needed and thereby decrease methane emissions.

Forage quality: The quality of forage fed to livestock can also affect methane production.

High-quality forage, such as alfalfa, can reduce methane emissions due to its high protein content and lower fiber content. Additionally, feeding a mixture of forage species can improve the digestibility of the feed and reduce methane emissions.

Antioxidant Supplementation:

Nutritional tools such as antioxidant feeding (vit. A, selenium, zinc, etc.) able to reduce heat stress and is a good strategy to prevent mastitis, optimise feed intake and reduce the negative impact of heat stress on milk production. Moreover, the use of antioxidant such as vit. E, vit. A, selenium and selenium-enriched yeast helps in reducing the impact of heat stress on the oxidant balance, resulting in improved reproductive efficiency.

Conclusion and Recommendations for Sustainable Livestock Production

The impact of climate change on livestock production is significant and requires urgent attention. The challenges posed by climate change are multifaceted, and addressing them will require a concerted effort from policymakers, industry stakeholders, and the research community. Adapting and mitigating the impacts of climate change on livestock production will not only contribute to global efforts to mitigate climate change but also ensure that the livestock sector remains sustainable and resilient. By working together and implementing innovative solutions, we can build a livestock industry that is better equipped to cope with the challenges of today and tomorrow.



Nurturing Calves for Optimal Growth and Health

The most sensitive raising time for the young calf is from birth to three months of age. The success of this first raising phase is dependent on farmers paying close attention to detail in the face of biological, environmental, and dietary stresses. Creating a good calf nutrition programme is one of the most critical.

Colostrum administration

The single most essential management practise in calf nutrition is feeding calves the appropriate amount of high-quality colostrum immediately after delivery. Colostrum, defined as milk taken from the mammary gland within the first 24 hours of birth, includes immunoglobulins that, when absorbed by the calf's stomach, help the calf fight sickness. Passive transmission refers to the transfer of this protection from dam to calf. When compared to calves with failed passive transfer, calves with adequate passive transfer develop faster and have reduced mortality and health costs.

Immunoglobulins are big proteins found in colostrum. Calves contain small intestinal apertures that allow protein absorption, but these openings seal shortly after birth. Colostrum immunoglobulins aid in the identification and destruction of invading pathogens, operate as the first line of defence against septicemia, and protect mucosal surfaces such as the intestine against invasive pathogenic microorganisms. Colostrum also

contains vitamins, minerals, energy (carbohydrate, fat), and proteins that are required for calf metabolism, growth, and immune system stimulation. Transition milk is milk that has been obtained between 24 and 72 hours and has a different composition than colostrum. When milk is harvested 72 hours after calving, its composition changes once more, and it is deemed entire sellable milk.

Three Important Factors to Consider When Feeding Colostrum

Farmers should concentrate on three aspects to attain the intended effects of colostrum:

1. Consume colostrum within one hour of delivery within one hour after birth.
2. Feed colostrum at a rate of 12 percent to 15 percent of the calf's body weight.
3. Make use of high-quality colostrum. A thick, creamy colostrum denotes high quality, but test it to be sure.

If a cow produces more than 8 kgs of colostrum, the chances of it containing enough immunoglobulins are less than 50%. Furthermore, cows having a dry period of less than 45 days, as well as those animals that encountered low nutrition or heat stress during the dry period, frequently have poor-quality colostrum. Do not feed bloody colostrum or colostrum contaminated with bacteria from dirt or dung.

Bhavana Gupta
Editor, Dairy Planner

Calf Nutritional Needs

Following the provision of colostrum, farmers must attempt to meet the calves' nutritional needs in the weeks that follow.

Temperature changes can be especially dangerous for new born calves. When ambient temperatures and relative humidity rise, calves might experience heat stress. The only dietary part of heat stress management in calves is to ensure that appropriate free choice water is available at all times.

Digestion and Rumen Growth

Despite the fact that a calf is born as a ruminant, the rumen does not function at birth.

Large densities of microorganisms (mainly aerobic) begin to colonise the rumen within the first day after birth. Dry feeds, such as calf starter, increase the amount and diversity of microorganisms in the rumen.

Water is required for the developing rumen and rumen bacteria to process dry foods. As a result, provide all calves with free access to fresh, clean water.

Encourage Beginner Intake

Begin offering starter after three days. Calves require encouragement! After the calf has finished drinking, place a handful of starter in the milk pail or on its muzzle.

By five to seven days of age, calves should be eating some starter. Calves should be consuming 0.1 to 0.2 kgs per day by the second week. If free-choice water is given at three weeks of age, calves will frequently double their dry feed consumption, which

corresponds with a more active rumen.

Only feed the amount of starter that the calves will ingest in one day to keep the calf starter as fresh as feasible. Replace mouldy or rotten feed with fresh feed on a daily basis.

Forage Feeding

Although studies have indicated that calves can consume forages early to weaning, forages are not required until calves consume four to five pounds of a high-quality starter, which is usually after weaning.

Begin introducing hay into the diet after weaning. Forage should be of high quality.

Because the rumen is not fully functional in young calves, they are inefficient at processing non-protein nitrogen.

Weaning calves from five to seven weeks of age and offering hay beginning at week eight is a typical suggestion.

Fermented forages can be fed to calves, however due to the little amount supplied and the difficulties in keeping fermented forages fresh, it is not advised for calves under three months old.

Water

Water is an important nutrient for calves and should be provided starting at three to four days of life. Rumen bacteria require water in order to metabolise feed. Milk and milk substitute do not qualify as water because they bypass the rumen.

Calves Being Weaned

Depending on liquid-feeding practises, weaning age ranges

from four to ten weeks.

However, age is not the most important factor in weaning a calf. Weaning decisions should be based on the calf's dry feed consumption. When a calf consumes 1.3 to 1.5 percent of its body weight in dry feed, it receives enough nutrients to maintain its weight and grow without the use of liquid feed.

After weaning, keep calves in individual housing for seven to fourteen days to monitor calf health and feed intake. Calves less than four weeks old should not be weaned. Allow for some management flexibility while weaning calves. Weaning causes stress for the calf, thus postpone it for unwell animals or if a disease epidemic happens. Before a calf may be weaned, it must be healthy.

On weaning calves, avoid combining management tasks such as dehorning and vaccination. Only engage in one management practise or task at a time. It is common for the extra stress involved with weaning to strain the calf's health, resulting in respiratory difficulties or other diseases.

Calves can be introduced to group housing between the ages of seven and eight weeks, or one to two weeks after weaning. Try to keep the ration the same as before weaning for the first two to three weeks of group dwelling. Easy access to water and feed, as well as suitable resting spots, should be provided in post-weaning group pens.

Healthy feeding and nutrition from birth to 3 months bring optimal growth and healthy animals.

Sapience Agribusiness Launches Revolutionary Post-biotic Technology to Transform Animal Health Industry and Ensure Sustainable Food Security

In Interview with Mr. Prashant Kumar Co-Founder and Director, Sapience Agribusiness Consulting LLP

Mr. Prashant Kumar, Director of Sapience Agribusiness, had a meaningful and informative discussion with 'Team Pixie' during their product launch at Chandigarh. The main topics of conversation were the challenges faced by the agriculture industry, Sapience's approach to addressing these issues, their future plans, and their roadmap towards cost-effectively achieving food security for everyone.

Question: The agriculture industry faces various challenges, including climate change, food security, and sustainable production. How does Sapience address these challenges, and what solutions do you provide your clients to ensure the business remains profitable and sustainable?

Prashant Kumar: Thank you for having me; it was an absolute pleasure to meet you all. Your question is highly relevant because we are currently at a critical juncture in agriculture, particularly in animal agriculture, where our collective goal is to achieve a sustainable and food-secure future. Sapience is dedicated to building an organization of the future that focuses on sustainably producing more food that is not only safer but also of higher quality. We provide innovative, next-generation, and cost-effective solutions relevant to the industry.

Regarding sustainability, we firmly

believe in the concept of One Health, which recognizes the close interconnection between human health, animal health, and the environment. This understanding has been prevalent for many years. If we fail to acknowledge the delicate balance among these ecosystems, we will face severe and lasting impacts in terms of climate change and human health. Let me illustrate this with a couple of examples. Out of 100 antibiotics, over 80 are utilized in the animal system. In India alone, antimicrobial resistance has already caused over a million deaths. By 2050, that number is projected to reach 10 million deaths, surpassing the toll of cancer, tuberculosis, HIV, diarrhoea, and other known causes of death. This alarming situation arises partly due to the lack of safe and sustainable food production.

Additionally, the livestock industry contributes to the carbon footprint, mainly through methane emissions from ruminants. At Sapience, we recognize these facts and take ownership as stewards of change in the industry. One of our notable technologies is 'Amaferm,' a Rumens modifier that reduces methane intensity in animals, directly contributing to environmental causes.

We are proud to have introduced bacteriophages, a safe and effective solution to replace some antibiotics



Mr. Prashant Kumar

Director,
Sapience Agribusiness Consulting LLP



An alumnus of Birmingham Business School, Prashant Kumar is a highly experienced professional with a strong background in brand development and strategy. With over 12 years of experience in the Asian agribusiness sector, he has made significant contributions to the field of food safety and production. As a co-founder and director of Sapience Agribusiness Consulting LLP, Prashant has successfully established the company as a leading player in the industry, with offices across Asia and the Pacific Rim. He is passionate about creating powerful agribusiness brands that contribute to food security and play a role in ending world hunger.

in our food system. These technologies are just a few from our robust pipeline of innovations, which we plan to launch in the next 12 to 15 months. Our ultimate goal is to move towards a future that is not only food secure but also creates an ecosystem for producing safe and higher-quality food.

I hope I have provided some insight into our approach to sustainability and food safety.

Question: Yes, it has been fantastic. So, is this why you founded Sapience in 2016 because you believed these were the problems that needed to be addressed? What were the other reasons behind founding Sapience? Since 2016, the company has experienced accelerated growth and successful investments. What is the story behind Sapience?

Prashant Kumar: The company was actually founded by my father, Mr. Somu Kumar Ambat, who has been a part of the industry for 44 years. He started his career with Venky's and worked closely with Dr. B. V. Rao, considered the father of the Indian poultry industry. Afterward, he worked with several multinational companies. In 2016, after his experience in large corporations, he returned to India. At that time, I was pursuing a different career path, which I'll share with you shortly. However, my father reflected on his four decades in the industry, a field he loved and dedicated his life to. He observed certain gaps and envisioned a clear path to contribute and propel the industry forward rather than accepting the existing status quo.

What was this status quo? It involved the excessive use of chemicals and contributing to issues like antimicrobial resistance, which he deemed unsustainable for animals and, more importantly,

humans. Internally, he felt a calling to make a difference, to take the industry in a direction he would be proud to leave behind. That's when we had a conversation—an intriguing conversation. On the other hand, I come from a different world. I'm an engineer by training and worked in technology for several years before becoming an entrepreneur about 12 years ago. I started a company in Singapore focused on enterprise mobility, which I eventually sold. Upon returning to India, I embarked on my second entrepreneurial venture called Freo, a high-end business-to-business and brand consulting company that continues to thrive. Technology and communications are my passions, and during this time, I played a part in building over 80 different Indian brands.

The challenge my father presented to me was, "You can spend the rest of your life building other people's businesses, or you can make a real difference in people's lives. We work in the food industry, and I've dedicated my entire career to producing more food. Together, we can push this industry in a different direction—one that I can be proud of, and more importantly, one that you can be proud of if you choose to dedicate your life to it." For me, that was my calling. I decided to leave my full-time pursuits and co-founded Sapience with my father. That's why I entered this vast, vibrant, and beautiful industry, where I now dedicate 24 hours a day to producing more food, making it safer.

Question: You mentioned your father's impact on you and how you were initially an outsider to this industry. Could you elaborate on how your passion complemented your calling? When you started Sapience, what were your ideas and goals?

Prashant Kumar: My passion has always been working with people. Initially, I envisioned myself working for a leading aviation company, sitting behind a computer and writing hundreds of thousands of lines of code. I did that for a few years but soon realized I could make a greater impact by working directly with people. I wanted to combine my passion for working with others with a cause that goes beyond personal success—to contribute to ending world hunger and producing safer food.

For me, that balance was perfect. It meant having the opportunity to work on real issues at the grassroots level, collaborating with genuine individuals, and leaving behind a legacy that I can be proud to share with future generations. This resonated much stronger with me than solely building brands or working with technology, which I still enjoy and excel at, but they don't provide the same sense of calling. A calling is something you dedicate your life to, whereas passion can be pursued as a hobby. I believe that's where the distinction lies.

When we started Sapience, our primary goal was to address the pressing challenges faced by the agriculture industry and ensure food security for everyone sustainably and cost-effectively. We wanted to develop innovative, next-generation solutions prioritizing human, animal, and environmental health. Our aim was to produce more food of higher quality while minimizing the use of chemicals and antibiotics. We also aimed to reduce the carbon footprint and methane emissions associated with animal agriculture. These were the foundational ideas and goals that shaped our journey with Sapience.

Question: Today, we are here for

the launch of your new product. Could you provide some details about the product and the innovative technology it brings, along with its benefits?

Prashant Kumar: We are thrilled to introduce our latest product, A O. Biotics EQE, which stands for "Egg Quality Enhancer." This product represents a new category of fermentation products. When we talk about fermentation products, we generally refer to probiotics and prebiotics that have been used for many years. Probiotics are live microorganisms that, when administered in specific doses, have been proven to provide health benefits to hosts, such as chickens. However, traditional probiotics have certain limitations, including stability, shelf life, and mode of action.

With A O. Biotics EQE, we are venturing into a new realm of technology. This is a post-fermentation product, which means that we have gone beyond the limitations of traditional fermentation. Instead of using live microorganisms, we have dissected the cellular level of a specific microorganism called *Aspergillus oryzae*. We have identified highly potent and beneficial components within this microorganism, which we cannot disclose at this time due to intellectual property reasons.

The components we have identified are currently patent pending, and we have also applied for patents for the post-fermentation process itself. This technology is a significant leap forward, and we refer to it as post-biotics. The post-fermentation process and the specific components we have extracted take this category to the next level. This technology is cutting-edge and aligns with our precision nutrition products line.

What sets A O. Biotics EQE apart is that it is a non-viable, non-living product with a clear mode of action. The dosage is precise and concentrated, providing unrivaled benefits. This level of precision and potency makes it truly unique in the market.

We are extremely proud of this groundbreaking technology and believe that it will have a significant impact on the industry. It represents a dynamic leap forward, and we are excited to bring it to the market.

Question: This groundbreaking technology is indeed set to disrupt the market. It marks the beginning of a new era, and we anticipate that the industry will take notice. The introduction of A O. Biotics EQE is just the first step in this transformative journey. We envision a whole range of products utilizing this innovative technology.

Prashant Kumar: It's important to note that A O. Biotics EQE is specifically designed for laying hens, breeders, and layers. We have tailored this product exclusively for their unique needs, making it highly specialized and unlike anything currently available in the market. This level of specificity is something that sets us apart and showcases our commitment to delivering targeted solutions for specific segments within the industry.

Question: Your journey from studying engineering in college to venturing into the protein intake industry and eventually finding your calling has been remarkable. Now, considering your unique experiences, what advice would you give to young entrepreneurs across the nation? Specifically, how can they differentiate between their passion and their calling, and what should they look for in their entrepreneurial pursuits?

Prashant Kumar: My advice to young entrepreneurs across the nation would be to first identify their innate talents and passions. Discover what comes naturally to them and what they excel at. Once you have found your talent, focus on polishing and developing it further. Passion often stems from doing what you are naturally good at.

However, passion alone is not enough. It is crucial to ask yourself the following questions: What will make you happy for the rest of your life? Can you envision looking back in 50 years and feeling proud of your life's work and the purpose behind it? Finding your calling requires deeper reflection and aligning your work with a greater sense of meaning and purpose.

In addition, maintaining curiosity, constantly seeking knowledge, and challenging the status quo are key to entrepreneurial success. Taking calculated risks is also essential. Early in your career is an ideal time to take risks as you have less to lose. Be willing to step out of your comfort zone and explore new opportunities.

As a country and an industry, we need more entrepreneurs who are willing to disrupt the norm and push the boundaries of what is possible. Embrace the spirit of entrepreneurship and bring innovation to your chosen field. The protein industry, in particular, is ripe for disruption, and there are vast opportunities for those willing to challenge assumptions and ignite their entrepreneurial spirit.

Ultimately, remember that your work should be meaningful, real, and something you can be proud of. Strive to make a positive impact and leave a lasting legacy. With passion, curiosity, risk-taking, and a sense of purpose, you can embark on an entrepreneurial journey that transforms not only your life but also the industry you enter.

Thank you, Prashant, for having us today, and we look forward to your new product and what changes it actually brings to the market. And then we will have a good talk after some time together when we get together again.

In Interview with Dr. Cesar Ocasio Regional Business and Innovation Manager, Biozyme Inc.



Doctor Cesar Ocasio
Business Development and Innovation
Manager



Dr. Cesar Ocasio is a Regional Business Manager - Europe for the growing International Division. He provides technical and commercial support to BioZyme's partners and clients in Europe, Asia, Africa and Australia, while continuing to expand their list of partners and promoting the use of BioZyme's additives in different countries around the world.

Team Pixie: Today at Pixie ExpoMedia, we have Doctor Cesar from Biozyme Incorporated. Biozyme has partnered with Sapience in India, and in our earlier interview with Mr. Prashant Kumar, Director Sapience, we discussed the future of postbiotics in the animal health industry. Biozyme being the pioneer in postbiotic technology, chose to partner with Sapience in India. What made you choose Sapience as a partner when you decided to enter the Indian market?

Dr. Cesar Ocasio: That is actually a really good question. I can tell that since 2018, Biozyme has formed what we call an international team. We work to find local distributors that, like Sapience, know the market really well and have the access that we are looking for. We chose Sapience to represent our brands in India because they have a strong team of intelligent minds composed of technical veterinarian people, marketing people, and everything that we are looking for in a partner and a partnership with Biozyme.

Team Pixie: The new product we will launch today is based on new technology that moves from fermentation to post-fermentation. This product is going to introduce its own category in the market. What motivated you to work for this product, and where and how was the idea born?

Dr. Cesar Ocasio: So basically, the idea was born, so to say, from a heavy research program that we have in our company. We worked in collaboration with different important universities all around the world. We have invested heavily in research for the last six to eight years. This research has been mainly targeted to understand better the core of Biozyme, the core of its

product, *Aspergillus oryzae*, and how we ferment with it. Based on that and utilizing all that knowledge brings us to another level. We are now implementing this new technology, the post-fermentation process, and other prototype fermentation processes to go to the next level and bring in new solutions that can enter into a new category of products that are the post-biotics.

Team Pixie: A slightly different question. What made you choose bioscience, and what do you think will be the future of biomedical science?

Dr. Cesar Ocasio: I think that is a great question. It makes me reflect on bioscience and for choosing this line of work. I decided on bioscience mainly because I want to help people. I wanted to help the future that is now forming itself. I also wanted to understand, for example, what we eat, its origin, and the several things involved in bringing that dish to the table.

Bioscience has a strong future ahead of us because mixing the concepts of bioscience with all the technological advantages we have nowadays represents a big opportunity. It is, in fact, the same approach that we are following at Biozyme. So we are mixing our knowledge in bio-science with technology to solve the various challenges in animal nutrition. This amalgamation of the two worlds, bioscience and technology, will bring us to another level. That is where I see the future of bioscience.

Team Pixie: It was a pleasure to have you with us today, and may the future hold fine tidings for you, and may this product bring great value to the protein food industry.



CLFMA OF INDIA in association with Smt. Sarabatibai Deora Memorial Foundation Celebrated World Milk Day at B. Y. L. Nair Hospital, Mumbai on 1st June, 2023



World Milk Day is an international day established by the Food and Agriculture Organization of the United Nations to recognize the importance of milk as a global food. It is observed on June 1 each year since 2001.

Milk proteins are important sources of essential amino acids like tryptophan and lysine. Proteins in the diet supply the amino acids required for the growth of infants and children and for the maintenance of tissues in adults. It is an important component of a balanced diet and contains numerous

valuable constituents. Considerable acclaimed health benefits of milk are related to its proteins, not only for their nutritive value but also for their biological properties. Scientific evidence suggests that anticarcinogenic activities, antihypertensive properties, immune system modulation, and other metabolic features of milk, are affiliated with its proteins.

On 1st June, 2023, CLFMA OF INDIA in association with Smt. Sarabatibai Deora Memorial Foundation Celebrated World Milk Day at B. Y. L. Nair Hospital,

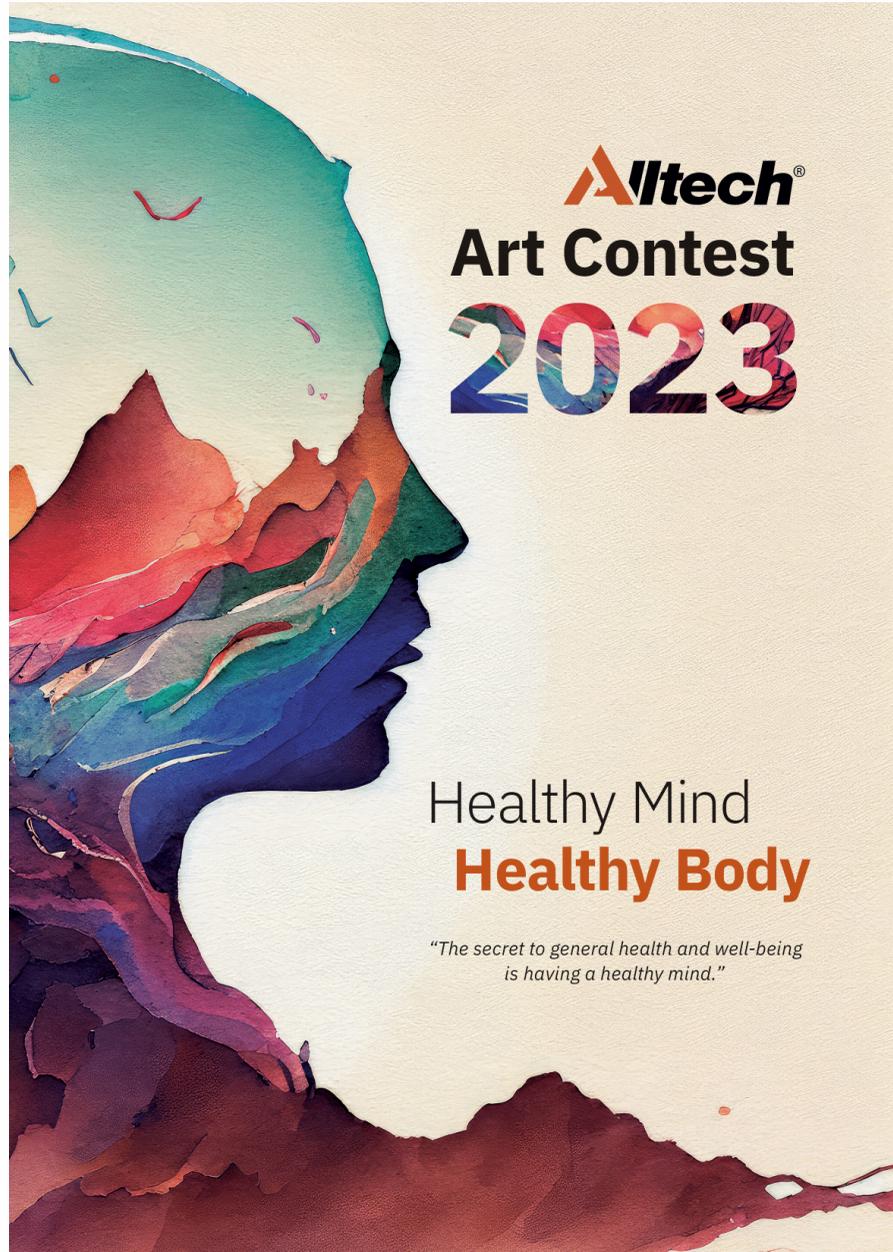
Mumbai. CLFMA OF INDIA's Chairman Mr. Suresh Deora, B. Y. L. Nair Additional Academic Dean, Dr. Satish Dharap, CLFMA Executive Director Ms. Chandrika Venkatesh and CLFMA team were present in the event.

CLFMA distributed milk tetra packets to the patients and staff of Nair hospital for creating awareness about the importance of protein in the diet.

The initiative was well appreciated by the participants



Alltech launches ninth annual Art Contest, invites nationwide participation from school children.



Alltech, a global leader in animal health and nutrition, announces the ninth annual Art Contest for schoolchildren. The competition will accept entries from June 9 to July 31, 2023.

The winning entries will be featured

in the 2024 Alltech calendar and awarded cash prizes and certificates.

"Healthy Mind — Healthy Body" is the theme of this year's art contest.

Having a healthy mind is

paramount to overall health and well-being. A healthy mind influences your thoughts, feelings and actions, as well as your emotional, psychological and social well-being. It collaborates with your body and determines how you deal with stress, interact with others and make decisions.

Alltech chose the topic "Healthy Mind — Healthy Body" for this year's art contest to help children realize the need to develop strong social, emotional, behavioral, thinking and communication skills as a foundation for greater mental health and physical well-being later in life.

"We are excited to announce the launch of the ninth annual Alltech Art Contest, with the theme 'Healthy Mind — Healthy Body,'" said Dr. Aman Sayed, managing director of India and regional director of South Asia at Alltech. "A healthy mind is a precedent for a healthy body. Until recently, human evolution has been 'outside-in,' starting with the body, followed by the mind. In the new normal, this order has begun to reverse, and humans' 'inside-out' journey has begun. Every parent and child should focus on a few basic areas -

healthy nutrition, exercise, rest and stress reduction to maintain a fit mind and body."

Who can participate?

All students between 5–16 can participate in the contest. The competition is open for children in India and Nepal.

When?

The contest is open for submissions from June 9 to July 31, 2023.

Online submission rules:

The theme "**Healthy Mind — Healthy Body**" must be the focus of the artwork.

- The artwork must be on paper of A4 size (210 × 297 mm) and in landscape mode.
- Acceptable media include crayons, watercolors, oil paints, acrylic paints, poster colors, color pencils, or pastels.
- The artwork must be unsigned by the artist.
- Entries should be submitted online. Upload a scanned image of the finished artwork to the website, filling in all the relevant details requested on the page. (Please only send a scan; do not mail us the original unless we ask for it.)

- The contest is open for participants from India and Nepal.

Submission:

The submission is online-only. Entrants must upload a scanned image of the artwork to the contest website and fill out all the relevant details requested on the page.

Check out the link below to participate and to learn more about the Alltech Art Contest.

Website link:

<https://www.alltech.com/en-in/about/events/alltech-art-contest-2023>

Terms & condition:

- Artworks copied or downloaded from the internet, or copied from any other source, will be disqualified.
- All artwork submitted for the competition will become the property of Alltech and will not be returned.
- Winners will be announced on August 28. The list of winners will be published on Alltech's website and social media channels and will also be communicated through the mail.

For more details, please contact your local Alltech sales manager or email alltechartcontest@alltech.com

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

About Alltech:

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

We are a global leader in the animal health industry, producing additives, premix supplements, feed and complete feed. Strengthened by more than 40 years of scientific research, we carry forward a legacy of innovation and a unique culture that views challenges through an entrepreneurial lens.

Our more than 5,000 talented team members worldwide share our vision for a Planet of Plenty™. We believe agriculture has the greatest potential to shape the future of our planet, but it will take all of us working together, led by science, technology and a shared will to make a difference.

Alltech is a private, family-owned company, which allows us to adapt quickly to our customers' needs and maintain focus on advanced innovation. Headquartered just outside of Lexington, Kentucky, USA, Alltech has a strong presence in all regions of the world. For more information, visit alltech.com, or join the conversation on Facebook, Twitter and LinkedIn.



Announcement Letter

CLFMA 56th AGM & 64th NATIONAL SYMPOSIUM 2023

Dear All,

We are pleased to inform you that the 56th Annual General Meeting (AGM) and 64th National Symposium 2023 which will be held on August 18 & 19, 2023 at Hotel Le Meridien, Windsor Place Janpath, New Delhi 110001.

The theme of the symposium is **“Livestock Sector: Looking Beyond the Present.”**

Please find attached Delegate Registration Form.

Meanwhile, please reserve your dates and reply **to admin@clfma.org** and confirm your participation.

With warm regards,

Suresh Deora

Chairman

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CLFMA OF INDIA

Mittal Chambers, 111, 11th Floor, Nariman Point, Mumbai - 400 021

Tel: 022 22026103 / www.clfma.org



The Dancing Doctor's Moo-vement Therapy

Dr. Bovina, a cow with a passion for dance, decided to combine her love for movement and medicine. She invented a unique form of therapy called "Moo-vement Therapy," where she would engage her patients in dance routines to improve their well-being. From waltzing with a pig to doing the conga with a sheep, Dr. Bovina's dancing skills and infectious enthusiasm brought a dose of joy and healing to all her patients. Her clinic became a haven for those seeking a remedy for both physical and emotional ailments.

Dr. Bovina's clinic was unlike any other. As soon as patients entered, they were greeted by the vibrant sounds of music and the sight of animals dancing their way to better health. The waiting room had been transformed into a dance floor, complete with disco lights and a DJ booth manned by a talented goat named DJ Bleatson.

Patients of all species eagerly awaited their turn to experience the transformative power of "Moo-vement Therapy." Dr. Bovina would assess their condition, whether it was a broken leg, a case of the blues, or a loss of confidence, and then tailor a dance routine specifically designed to address their needs.

For those with physical injuries, Dr. Bovina would teach them graceful movements that helped improve their balance and strengthen their muscles. She would waltz with them, demonstrating the proper technique and encouraging them

to follow along. The patients, be they pigs, chickens, or even turtles, found themselves twirling and spinning with newfound grace and agility.

But Dr. Bovina's expertise extended beyond physical ailments. She understood that emotional well-being was just as important. When a sheep arrived feeling down and despondent, she would invite them to join her in a lively conga line. With each joyful step, the sheep would find their spirits lifting, surrounded by the infectious enthusiasm of Dr. Bovina and her other dancing patients.

The word of Dr. Bovina's unique approach spread far and wide. Animals from neighboring farms and even humans began seeking her out for their various ailments. Her reputation grew, and soon she was traveling to different

communities, hosting "Moo-vement Therapy" workshops where animals of all backgrounds could come together and dance their troubles away.

Dr. Bovina's impact on her patients was immeasurable. Through dance, she not only helped them recover physically but also boosted their confidence, alleviated their anxieties, and brought joy back into their lives. Her clinic became a sanctuary of laughter and healing, where patients would leave with a skip in their step and a renewed sense of well-being.

And so, the legend of Dr. Bovina, the Dancing Doctor, lived on, reminding us all that sometimes the best medicine comes in the form of laughter, movement, and a little bit of bovine-inspired groove.



Yogi enlists NDDB subsidiary to help form women dairy FPOs in UP



Inspired by the encouraging results of the experiments in Jhansi and Varanasi, the Uttar Pradesh govt. has officially urged NDDB Dairy Services (NDS), a subsidiary of the National Dairy Development Board (NDDB) to build a network of women owned milk producer companies in the state's 17 districts.

NDDB Dairy Services, a subsidiary NDDB, is providing technical support to the Uttar Pradesh government to establish three women-owned milk producer companies under the state government's Mahila Samarthyta Yojana (MSY). With this initiative, the government aims to involve around 1.50 lakh rural women dairy farmers from over 2,800 villages in 17 districts of U.P. By the time the initiative is in its fifth year, the objective is the procurement of over 7 lakh litres of milk per day, according to information.

To be named Saamarthyta, Shri Baba Gorakhnath Kripaa and Srijanee, these milk producer companies will be headquartered in Rae Bareilly, Gorakhpur and Bareilly, respectively. While the Rae Bareilly company will employ women dairy farmers from Rae Bareilly, Sultanpur, Amethi, Ayodhya, Fatehpur, Kanpur Nagar and Pratapgarh, Shri Baba Gorakhnath Kripaa will give livelihood opportunities to Deoria, Gorakhpur, Kushinagar and Maharajganj women, and Srijanee is for women in Bareilly, Rampur, Pilibhit, Kheri, Sitapur and Shahjahanpur.

NDDB chairman Meenesh Shah pointed

out that despite being the second largest milk-producing state in the country, Uttar Pradesh still had a large untapped potential. "This initiative of bringing together women dairy farmers will not only provide them with market access and livelihood but will also unleash their entrepreneurship potential," he added.

Since the announcement of the move involving women dairy farmers, the state government has prepared an outlay for setting up three companies, and the work to get them running as swiftly as possible has already begun, said C Indumathy, the state mission director of UP State Rural Livelihood Mission.

NDRI commercialises technology for antibiotic detection in milk



The ICAR-National Dairy Research Institute (NDRI) has transferred a technology for rapid detection of antibiotics residues in milk to — Country Delight — a start-up.

Speaking during the signing of technology licence agreement, Dr Dheer Singh, Director, ICAR-NDRI, said that the institute has been making

concerted efforts to transfer its technologies to stakeholders. In the current year, the NDRI has commercialized four technologies. The present technology has been developed by scientists of the Dairy Microbiology Division at the institute's referral laboratory. Antibiotic residues appear in milk due to indiscriminate use of veterinary drugs on dairy animals.

Pooja Gupta, head, quality assurance, Country Delight, said that the technology will help the company provide cost effective testing of milk to meet the regulatory requirement. In the long run, the technology will reduce indiscriminate use of antibiotics by dairy farmers. This will help in reducing antimicrobial resistance of pathogenic bacterial which is currently a growing global concern.

Assam Procures 1.16 Lakh Sexed Sorted Semen To Boost Dairy Industry

Assam Chief Minister Himanta Biswa Sarma said that the government has procured 1.16 lakh sexed sorted semen in a bid to increase female calf population to boost the dairy industry. The state government has set an ambitious target to increase milk production manifold pursuing the models of states like Gujarat.

The Assam CM further said that under the Mukhyamantri Swa Niyogan Yojana, the government will provide financial assistance of Rs 2 lakh each to two lakh youths of Assam. We have decided to give special emphasis on animal husbandry and livestock, dairy production and fisheries to improve the economy of the state and also special focus in modernization and infrastructure development of the veterinary sector.

It may be noted that CM Sarma flagged off 181 Mobile Veterinary Units (MVUs), distributed sexed-sorted semen and inaugurated Regional Artificial

Insemination Training (RAIT) Institute and Cold Storage during a programme held in Guwahati. The event was attended by state agriculture minister Atul Bora, ALPCO chairman Manoj Saikia, MP Queen Oja and senior government officials.

Amul vs Aavin: Barely months after Karnataka dairy row, Amul finds itself in Tamil Nadu firefight



The Tamil Nadu Chief Minister has written to the Home Minister, expressing his concern that Amul, the Gujarat-based dairy giant, should not expand its milk procurement operations in Tamil Nadu. The state fears that its regional cooperative Aavin will lose its monopoly in milk procurement to Amul by using its multi-state cooperative license. According to reports, Amul has already set up a processing plant and collection centers in various districts of Tamil Nadu and is setting up another milk plant in Sri City. Earlier Amul was selling its products in Tamil Nadu only through their outlets.

Amul has set up a plant in Chittoor in Andhra Pradesh and milk procured from Vellore is being routed to this plant. The company has already announced formation of milk collection centres in Tiruvannamalai, Kancheepuram, Ranipet, Vellore and Tiruvallur districts of the state through Self Help Groups (SHGs) and cooperatives at the village.

Tamil Nadu, a state with strong dairy cooperatives, a three-tier dairy

cooperative system is functioning effectively since 1981 for the benefit of the rural milk producers and consumers. This act of AMUL infringes on Aavin's (TN Co-operative Milk Producers Federation) milk shed area which has been nurtured in true cooperative spirit over decades and it will create unhealthy competition between cooperatives engaged in procuring and marketing milk and milk products.

Aavin is the apex cooperative marketing federation in Tamil Nadu. Under the ambit of Aavin co-operative, 9,673 Milk Producers Co-operative Societies are functioning in rural areas. They procure 35 LLPD of milk from about 4.5 lakh pouring members. Under this current arrangement, milk producers are assured of remunerative and uniform prices throughout the year



by the cooperative societies. Aavin also provides various inputs such as cattle feed, fodder, mineral mixture, animal health care and breeding services for animals of milk producers. In addition,

it ensures the supply of quality milk and milk products to consumers at one of the lowest prices in our country.

UP Govt launches Nand Baba Milk Mission scheme at cost of Rs 1000 crores

Uttar Pradesh government has launched Nand Baba Milk Mission Scheme at the cost of Rs 1000 crore to increase milk production on the one hand and to give milk producers fair prices for their produce in villages itself.

In order to advance precision dairy farming, raise per-animal milk productivity, and give rural milk producers a suitable market, milk cooperative societies will be established in the villages as part of the mission.

According to Shashi Bhusan Lal Susheel, Commissioner of the Dairy Development Department, the nation as a whole produces 221 million metric tonnes of milk, and the state of Uttar Pradesh alone produces 33 million metric tonnes. However, the availability of milk per person per day in the state is 392 grammes, compared to the national average of 444 grammes.

He added that although there is a shortage of markets for milk producers in rural areas, attempts are being made to increase the number. The number of organised animal feed



manufacturing units and value-added animal feed/fodder manufacturing facilities is also increasing. Along with this, efforts will be made to boost the state of Uttar Pradesh's lower than average milk yield per animal per day.

Additionally, measures will be done to address the deficiencies related to a lack of precision dairy farming and milk processing expertise. The supply of processed milk and milk products will rise at affordable costs, and the organised sector's involvement in milk processing will also increase.

He added that CM Yogi named this project in honour of Nand Baba because he was the world's largest cow breeder, milk collector, butter maker, and Lord Shri Krishna's foster father.

To get from the cow to the customer is the mission's objective. Production, collection, processing, and consumer all fall under this value chain. The mission's primary goals are to boost milk production, expand the capacity for milk collection and processing, enhance capacity, and safeguard value.

Sid's Farm unveils web shopping page for Ghee, now available pan India

Sid's Farm, the esteemed direct-to-consumer (D2C) dairy brand renowned for its superior quality products, is delighted to announce the nationwide availability of its exquisite ghee collection. As of



Wednesday, ghee enthusiasts across India's major cities can indulge in the exceptional flavours and nutritional benefits of Sid's Farm Ghee, conveniently delivered to their doorstep.

Ghee, a quintessential ingredient in Indian cuisine, holds a special place in the hearts of food enthusiasts. Sid's Farm Ghee stands out not only for its exceptional taste but also for its nutritional benefits. Packed with essential vitamins and nutrients, it offers a wholesome option for health-conscious individuals.

Sid's Farm Ghee offers a range of variants, each carefully crafted to cater to diverse preferences and palates. To experience the exceptional flavours of Sid's Farm Ghee, customers can easily place their orders on the official Sid's Farm website. This user-friendly platform ensures a seamless and hassle-free shopping experience, allowing individuals to enjoy the richness of ghee from the comfort of their homes.

To make this culinary delight easily accessible to consumers, Sid's Farm Ghee will also be available for purchase through their efficient D2C channel, enabling customers to enjoy doorstep delivery of their favourite dairy products. Expanding its reach, Sid's Farm has also planned for its Ghee to be available through designated eCommerce and aggregator channels such as Zepto, Big Basket, and Milk Basket.

By addressing the possibility of micro-level adulteration, the company guarantees the purity and safety of their products. Their state-of-the-art laboratory conducts more than 6,500 tests daily, assuring customers that only real, adulterant-free milk and dairy products make their way home.

The commitment to delivering unparalleled quality begins at the procurement stage, where Sid's Farm ensures that the highest standards are met. The company employs a four-level testing process, ensuring dairy products are free from preservatives, additives, antibiotics,

hormones, or any other adulterants. Each Sid's Farm Ghee packet undergoes meticulous scrutiny at every stage, guaranteeing that it meets the strictest standards and surpasses customer expectations.

Mother Dairy to invest Rs 400 crore to set up unit in Nagpur: Nitin Gadkari



Union Minister Nitin Gadkari said that Mother Dairy will invest Rs 400 crore in Nagpur in a project for which the government will give 10 hectares of land.

Speaking to reporters to highlight achievements in nine years of the Narendra Modi government, the senior Bharatiya Janata Party leader and Nagpur Lok Sabha MP said dairy products from the proposed unit will be supplied across the country.

The company will procure 30 lakh litres of milk daily from farmers and benefit farmers the of Nagpur and other districts of Vidarbha.

Mother Dairy is a wholly owned subsidiary of National Dairy Development Board (NDDB) and was commissioned in 1974 as part of Operation Flood.

15 students of GADVASU go to Malaysia for 4-week training

Guru Angad Dev Veterinary and Animal Sciences University (GADVASU) flagged

off 15 BTech Dairy Technology students of the 2019 batch from College of Dairy Science and Technology (CODST) for an international training programme, "International Collaborative Training Programme on Advances in Quality and Safety Assessment of Animal Based Foods" at University Putra Malaysia (UPM), Malaysia.

Dr RS Sethi, Dean CODST, said the training will last for four weeks from June 10 to July 7. He said the programme has been sponsored by the World Bank and the The Institutional Development Plan, funded by ICAR under National Agricultural Higher Education Project, operational at GADVASU. The training aims at providing the students an opportunity to gain exposure to the facilities and techniques at reputed institutes in developed countries.

Sethi said the visit will help the students in expanding their knowledge domain and acquiring latest practical skills. Dr Awis Qurni Sazili, director, Halal Products Research Institute, UPM, Malaysia, is hosting the contingent from GADVASU to provide practical demonstration on various advanced laboratory techniques quality and safety assessment of animal based foods.

Shankar Chaudhary of BJP re-elected chairman of biggest milk cooperative in Gujarat

BJP leader and Gujarat Assembly Speaker Shankar Chaudhary was unanimously re-elected as the chairman of Banas Dairy, Gujarat's biggest milk cooperative. The Banaskantha District Cooperative Milk Producers' Union Union has 18 board members and is one of the 18 district milk unions in the state.

Chaudhary has been the chairman of Banas Dairy after he replaced Parthi Bhatol in 2015. He continued to hold the position after being appointed as Gujarat Assembly's Speaker in December. He is expected to continue as the Banas Dairy chairman for the next



two-and-a-half years. Banas Dairy is giving Rs 35 crore daily to dairy farmers in the district. The dairy alone collects Rs 80 lakh litres of milk every day.

Arun Ganpatrao Dongale replaces Vishwas Narayan Patil as Gokul Dairy chairman



Vishwas Narayan Patil, President of Kolhapur District Milk Producers Union (Gokul Dudh Sangh), has resigned from the post of Chairman. This resignation has also been approved in the meeting of the Board of Directors of Gokul Dudh Sangh. Two years ago, a panel led by Congress MLC Satej Patil and Nationalist Congress Party MLC Hasan Mushrif won, replacing the long rule by

the panel led by former MLC Mahadevrao Mahadik. Vishwas Patil was made chairman for two years. His resignation is according to the formula decided after the transfer of power.

Shri Arun Ganpatrao Dongale has been appointed as the new chairman.

Jenifer Dobbs Joins World Dairy Expo as Sponsorship Manager

World Dairy Expo recently welcomed Jenifer Dobbs, Oxford, Wis., as the organization's new Sponsorship Manager. In this role, Dobbs will cultivate and maintain meaningful relationships with the hundreds of corporate, farm and individual sponsors involved in the world's premier dairy event and work closely with the Commercial Exhibitor Committee.

Dobbs brings a wealth of knowledge and expertise in event management and relationship building, spending 12 years as Director of Festivals & Events for the Wisconsin Dells Visitor & Convention Bureau. There, she oversaw and planned hundreds of events from conception to completion of various types and sizes.

Serving as the meeting place of the global dairy industry, World Dairy Expo



brings together the latest in dairy innovation and the best cattle in North America. The global dairy industry will return to Madison, Wis. for the 56th event, October 1-6, 2023, when the world's largest dairy-focused trade show, dairy and forage seminars, a world-class dairy cattle show and more will be on display.

Download the World Dairy Expo mobile event app, visit worlddairyexpo.com or follow WDE on Facebook, Twitter, LinkedIn, Spotify, Instagram or YouTube for more information.

Business Media Solutions, Inc. Wins Custom Training Development Contract Focused On Animal Health

Business Media Solutions, Inc.'s ("BMS") intRAtrain unit has won a contract to develop a series of training modules for a large animal health company in early June. The custom-designed training modules will be used by over 1,000 sales reps in the United States and Canada. An initial five-figure contract development is expected to be completed in late 2023, with potential upside from follow-on work.

intRAtrain will work extensively with the client to design, develop and implement

the modules targeted at the core competencies the sellers need to be successful. To encourage learning, modules will be short in nature, covering the key foundational drivers, product details, and economic drivers impacting product sales.

Additional phases of development are expected after the completion of the first series in 2023. These phases are expected to increase the audience size and further expand the scope of products and science-based topics covered.

Business Media Solutions, Inc. is currently under definitive agreement to merge into and join forces with FOMO WORLDWIDE, INC.'s education technology division. The Companies intend to bring the world custom enterprise content and training married to learning management systems ("LMS"), which together represent an over \$100 billion addressable market in the U.S. and abroad. BMS is currently tracking an active quarterly sales pipeline in its focused areas of agriculture and food verticals in the mid six figures with deal sizes ranging from \$25,000 to \$200,000 across all service offerings.

About Business Media Solutions, Inc.

Business Media Solutions, Inc. (www.intratrain.com & www.inspectitrac.com) is a training, testing, inspections, and management systems company specializing in helping companies in the food,

agribusiness, animal health and nutrition, and general industries, grow and realize a positive return on their investment. The BMS approach can result in better trained employees, reduced risk, lower costs, and improved ROI.

About FOMO WORLDWIDE, INC.

FOMO WORLDWIDE, INC. (US OTC: FOMC) (www.fomoworldwide.com) is a publicly traded company focused on business incubation and acceleration. The Company invests in and advises emerging companies aligned with a growth mandate. FOMO is developing direct investment and affiliations - majority- and minority-owned as well as in joint venture formats - that afford targets access to the public markets for expansion capital as well as spin-out options to become their own stand-alone public companies.

Source: FOMO WORLDWIDE, INC.

Israeli startup paves way for eco-friendly 'cowless' dairy products



Rehovot-based Remilk company, a prominent player in developing and manufacturing dairy protein without animal involvement, received approval from Israel's Health Ministry.

This significant regulatory milestone paves the way for Remilk's non-animal dairy products to be marketed and sold to Israeli consumers. It also positions Israel as one of the pioneering countries in providing eco-friendly, genuine dairy products that are cow-, lactose- and cholesterol-free and devoid of antibiotics and growth hormones.

Israel's food tech sector has witnessed a remarkable surge in investment, increasing from USD53 million in 2015 to USD 866 million in 2021. The sector encompasses a diverse range of cutting-edge solutions that include nutrition, cultured meat, new ingredients, alternative proteins, packaging and food safety, processing systems, retail, restaurant tech, health and wellness.

Israel, with the second-most food technology companies after the US, hosts more than 100 alternative protein companies. Forty per cent of them are startups with breakthrough technology that is shaping the future of our food.

And, according to the US National Institute of Diabetes and Digestive and Kidney Diseases--part of the National Institutes of Health--approximately 68 per cent of the world's population is lactose intolerant.

\$82 million in loans approved by the World Bank for prevention of zoonotic disease in India



The World Bank's acceptance of the \$82 million loan is a crucial step in improving India's One Health strategy and addressing the dangers posed by zoonotic diseases.

The World Bank's Board of Executive Directors has approved a \$82 million loan to help India apply international best practises for animal health

management. Given the connection of humans, animals, and the environment, the loan aims to prevent, identify, and respond to endemic, transboundary, and emerging infectious diseases.

Because India has the world's largest animal population, the risks of animal disease epidemics are exceedingly high. These epidemics not only harm public health systems, but they also have a significant financial impact. For example, the national cost of foot and mouth disease is around \$3.3 billion per year.

The loan would be used to support India's livestock health and disease control strategy, which aims to minimise the spread of zoonosis and other animal diseases. By carrying out this initiative, which will boost disease surveillance and veterinary services in the livestock and wildlife sectors, the risks of animal disease outbreaks can be reduced.

Because of the Animal Health System Support for One Health Programme, at least 2.9 million livestock producers in the participating states of Assam, Karnataka, Maharashtra, Odisha, and Madhya Pradesh would have easier access to better animal health care. This will make it easier to detect and respond to illness epidemics as they

arise.

As part of the initiative, modern laboratories will be created to promote communication and information sharing between the human and animal health industries. This integrated approach will provide a more comprehensive understanding of disease patterns and will aid in the

development of evidence-based management strategies for animal diseases and zoonosis.

In addition to disease control, the project will place a special emphasis on improving food quality and safety, particularly in livestock and wet markets. This action strives to reduce the likelihood of disease transmission to humans through food consumption by ensuring that animal products meet stringent quality standards.

The International Bank for Reconstruction and Development (IBRD) loan of \$82 million includes program-for-results (PforR) financing. According to this technique, cash is given based on the achievement of specific programme results. The loan has a term of 11.5 years with a grace period of 4.5 years.

Key points about the World Bank:

The World Bank: The World Bank is an international financial institution that provides loans and grants to the governments of low- and middle-income countries for development projects. It aims to reduce poverty and promote sustainable economic growth.

World Bank Group: The World Bank Group consists of five institutions, including the International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA). The other three institutions are the International Finance Corporation (IFC), the Multilateral Investment Guarantee Agency (MIGA), and the International Centre for Settlement of Investment Disputes (ICSID).

Board of Executive Directors: The World Bank is governed by its Board of Executive Directors, which represents its 189 member countries. The Board makes decisions on key policies, strategies, and financial assistance provided by the World Bank.

President of the World Bank: The President of the World Bank is the highest-ranking official in the institution. Indian-American business leader Ajay Banga has been appointed as the President of the World Bank for a five-year term.

Zoetis Holds Investor Day and Presents Strategy to Shape Animal Health for the Next Decade



Zoetis Inc. hosted an investor day at the New York Stock Exchange, where the company presented its compelling growth ambitions, its innovative and robust R&D pipeline and its financial roadmap to continue delivering shareholder value, as it Shapes Animal Health for the Next Decade.

During the presentations, Chief Executive Officer Kristin Peck, Chief Financial Officer Wetty Joseph, President of Research & Development Robert Polzer, Ph.D., and other members of the Zoetis executive team outlined the company's plans to deliver on its ambitions by:

- Building on its leadership in Animal Health to shape and expand the future of animal care.
- Delivering growth in a dynamic and resilient industry by innovating and growing faster than the market.
- Driving its next phase of game-changing franchises through internal R&D and business development.
- Investing in capabilities and innovation that differentiate Zoetis.
- Continuing to create value for shareholders through revenue growth, strategic investments, margin expansion and capital return.

Franchises Fueling Future Growth

Zoetis sees long-term sustainable growth driven by new products and lifecycle innovations for companion

animals and livestock. The executive team will discuss its strategy for expanding its current billion-dollar franchises in dermatology and pet parasiticides, and new expectations for its osteoarthritis pain franchise to reach more than \$1 billion in peak sales. Zoetis will also provide an update on its R&D pipeline and future growth opportunities in new therapies for renal disease, cardiology and oncology, as well as its livestock and diagnostics portfolios.

New Ambitions for Value Creation

Zoetis will also introduce new ambitions for the four tenets of its long-standing value proposition over the next 3-5 years, including:

- Growing annual revenue mid-to-high single digits,¹ driven by key franchises.
- Driving ROIC (Return On Invested Capital) accretion¹ by focusing on critical investment priorities.
- Enabling margin improvement¹ through revenue growth in more profitable product categories and greater leverage of its global scale.
- And maintaining balance between investments and return of capital with a disciplined capital allocation strategy.

About Zoetis

As the world's leading animal health company, Zoetis is driven by a singular purpose: to nurture our world and humankind by advancing care for animals. After innovating ways to predict, prevent, detect, and treat animal illness for more than 70 years, Zoetis continues to stand by those raising and caring for animals worldwide – from veterinarians and pet owners to livestock farmers and ranchers. The company's leading portfolio and pipeline of medicines, vaccines, diagnostics and technologies make a difference in over 100 countries. A Fortune 500 company, Zoetis generated revenue of \$8.1 billion in 2022 with approximately 13,800 employees. For more information, visit www.zoetis.com.

Source: Zoetis Inc.

Eddy Ketels will step down as CEO of Orffa – Haiko Zuidhoff appointed as successor



Eddy Ketels will step down as CEO of Orffa at the end of 2023. He will be succeeded by Haiko Zuidhoff, who will start in his new role as of 1 October 2023.

Eddy Ketels has been working for 35 years at Orffa. He became CEO in 2001. Under his leadership Orffa has developed from a local player, mainly focused on ingredients in Belgium and the Netherlands, into a global innovative value-adding company having presence in the main feed producing countries, offering a balanced portfolio of feed additives.

Haiko Zuidhoff has worked in Asia for 25 years and moved back to The Netherlands in 2022. He most recently served IMCD as President for the Asia region, overseeing IMCD's vision, strategy and accelerated growth through both organic growth and M&A. Prior to IMCD he served in various senior leadership roles at Trouw Nutrition Nutreco and Corbion. His knowledge and expertise will contribute to Orffa's strategy and vision to be a value-adding partner to the global animal production of today and tomorrow.

Haiko Zuidhoff will be based at Orffa's headquarter in Breda, the Netherlands.

Tedros emphasised the need of being ready for any adjustments to the existing scenario.

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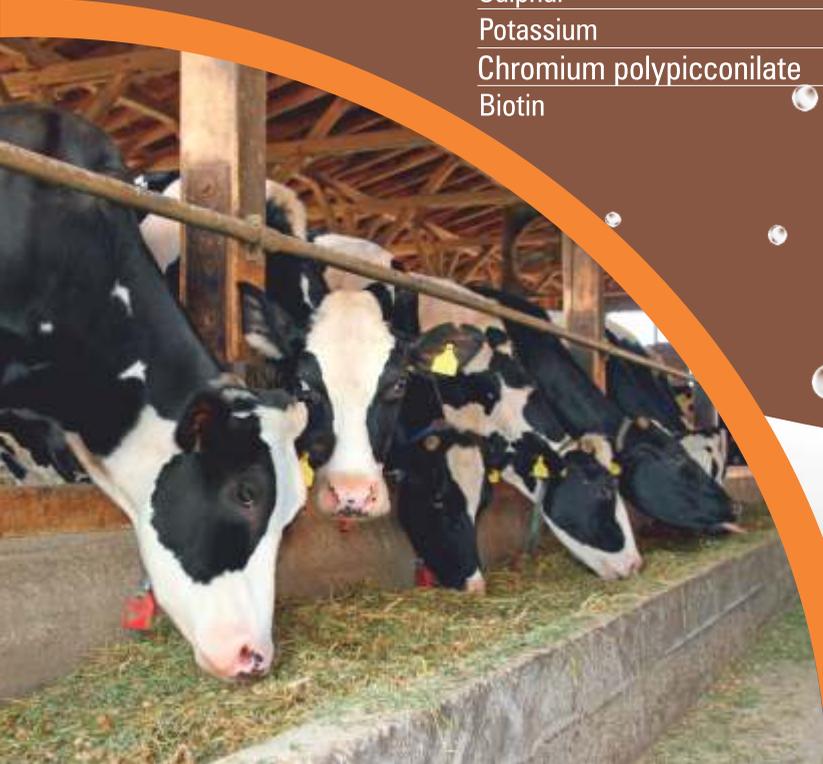
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Editorial Calendar 2023

Publishing Month: January Article Deadline : 30th, Dec. 2022 Advertising Deadline : 3rd, Jan. 2023 Focus : Climate Management	Publishing Month: February Article Deadline : 30th, Jan. 2023 Advertising Deadline : 3rd, Feb. 2023 Focus : Nutritional Deficiency Effects	Publishing Month: March Article Deadline : 28th, Feb. 2023 Advertising Deadline : 3rd, March 2023 Focus : Herd / Breed Management - Fertility, Breeding & Reproduction	Publishing Month: April Article Deadline : 30th, March 2023 Advertising Deadline : 3rd, April 2023 Focus : Disease Prevention/ Risk Assessment
Publishing Month: May Article Deadline : 30th, April 2023 Advertising Deadline : 3rd, May 2023 Focus : Small Ruminants Management (Sheep, Goat etc)	Publishing Month: June Article Deadline : 30th, May 2023 Advertising Deadline : 3rd, June 2023 Focus : Calf & Heifer Management	Publishing Month: July Article Deadline : 30th, June 2023 Advertising Deadline : 3rd, July 2023 Focus : Milk Production Management/ Milking Practices	Publishing Month: August Article Deadline : 30th, July 2023 Advertising Deadline : 3rd, August 2023 Focus : Feed & Fodder
Publishing Month: September Article Deadline : 30th, August 2023 Advertising Deadline : 3rd, September 2023 Focus : Vaccination Protocols/ Cattle Herd Immunization	Publishing Month: October Article Deadline : 30th, September 2023 Advertising Deadline : 3rd, October 2023 Focus : Dairy By-products	Publishing Month: November Article Deadline : 30th, October 2023 Advertising Deadline : 3rd, November 2023 Focus : Potential of Dairy Farming	Publishing Month: December Article Deadline : 30th, November 2023 Advertising Deadline : 3rd, December 2023 Focus : Calf Management

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