

APRIL 2024

MONTHLY BILINGUAL

INR 300

DAIRY PLANNER

HARBIL/2004/22481

Title Code HARBIL00698

Vol. 21 | No. 04 | April - 2024

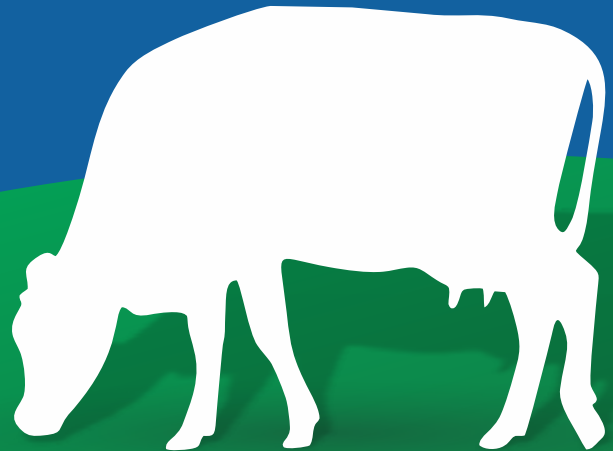


ENHANCING DAIRY
FARM PRODUCTIVITY



BOOST
YOUR **BRAND**
VISIBILITY
with us

With Over
45,000+
Readership



Advertise with us
Today
See your business
Growing

The Magazine Covers all the latest news, articles, Product Launches, CSR, Press Releases, New Appointments, Latest Developments & a complete industrial overview.

Pixie Expomedia Pvt. Ltd.

C/o OmAng Hotel, Namaste Chowk, Near Janta Petrol
Pump, KARNAL - 132001 (Haryana) INDIA
Email : poultry.pcsl@gmail.com, dairy.pcsl@gmail.com

+91 7419993001

www.facebook.com/dairyplanner123

www.facebook.com/poultryplanner123

www.linkedin.com/company/dairy-planner

5M+ Forte[®] Organic (CHELATED)

SUPERIOR QUALITY NUTRITIONAL
SUPPLEMENT OF CHELATED
MINERALS AND VITAMINS

For Dairy Cattle, Sheep & Goat



COMPOSITION

Each 1Kg Contains :

Vitamin A	72,00,000 IU
Vitamin D3	77,000 IU
Vitamin E	275 mg
Nicotinamide	1200 mg
Zinc Glycinate	10000 mg
Manganese Glycinate	1800 mg
Magnesium Glycinate	6600 mg
Copper Glycinate	1600 mg
Ferrous Glycinate	1750 mg
Cobalt Glycinate	175 mg
Iodine as POTASSIUM IODIDE	360 mg
Calcium Glycinate	25.5%
Phosphorus	12.75%
Sodium	7 mg
Sulphur	0.72%
Potassium	110 mg
Chromium polypicconilate	300mg
Biotin	20mg

BENEFITS

- Organic Chelated Minerals improve the important minerals bio-availability
- Effective in increasing Reproductive Performance
- For Improved Milk quality
- For better Health and Growth
- For the control of LAMINITIS in dairy cattle

INSTRUCTIONS FOR USE

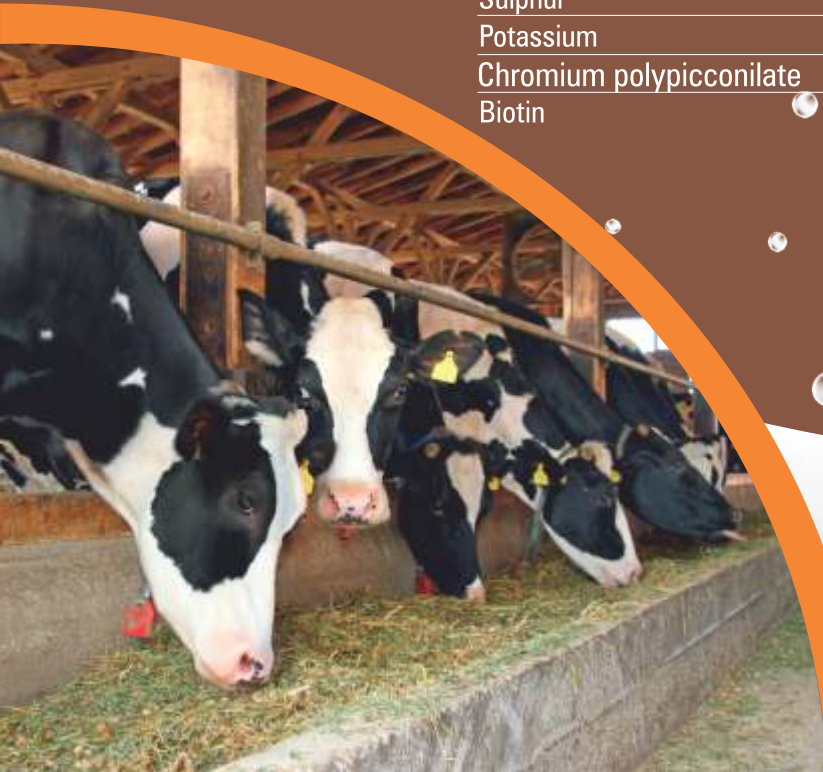
Daily Cattle : 50gm daily
Sheep & Goat : 5-10gm daily
or as advised by Veterinarian.

PACKAGING

5M+ Forte organic is available in 1Kg/5Kg printed bags & Bulk Packs available.

STORAGE CONDITIONS

To be stored in a cool, dry, dark place away from sunlight.



BIOSINT[®]
NUTRITIONAL INNOVATIONS

For Further Details

BIOSINT NUTRACEUTICALS,

Factory : 19, Polupalli SIDCO Industrial Estate,
Pillanakuppam PO, Polupalli Village,
Krishnagiri - Hosur Highway,
Krishnagiri - 635 115. TN, INDIA.

Corporate Office : 37, Krishna Nagar,
KK Pudur 4th St, Coimbatore - 641 038.

Telefax : +91- 422 - 2430275, Mobile : 094435 17258

e-mail : info@biosintnutraceuticals.com

www.biosintnutraceuticals.com



From the Pen of Chief Editor



Preserving the Purity: The Vitality of Maintaining Cold Chain in Dairy Farming

In the world of dairy farming, where freshness and purity are paramount, the cold chain stands as an indispensable guardian. The dairy industry relies heavily on the integrity of this chain to ensure that the wholesome goodness of milk and its by-products reaches consumers untainted. However, the significance of maintaining this cold chain often goes unnoticed amidst the bustling operations of farms and distribution networks. It's time to shed light on this vital aspect of dairy farming and emphasize its crucial role in upholding standards of quality, safety, and sustainability.

The essence of the cold chain lies in its ability to preserve the freshness and nutritional value of dairy products from farm to table. From the moment milk is extracted from the udders of cows to its journey through processing plants and transportation to retail outlets, every step must be meticulously managed to maintain optimal temperature conditions. Failure to do so can lead to the proliferation of harmful bacteria, compromising the safety and quality of dairy products.

One of the primary challenges in maintaining the cold chain is ensuring seamless coordination across various stages of production and distribution. Dairy farmers, processors, transporters, and retailers must work in unison to uphold temperature control standards at every stage. Investments in refrigeration technology, insulated packaging, and monitoring systems are imperative to safeguard the integrity of the cold chain. Moreover, stringent protocols and training programs should be implemented to educate stakeholders about the importance of proper handling and storage practices.

The consequences of neglecting the cold chain can be dire, not only for dairy farmers but also for consumers and the environment. Spoiled milk and dairy products not only incur financial losses but also undermine consumer trust and confidence in the industry. Moreover, the wastage of resources and energy associated with improper cold chain management contributes to environmental degradation and exacerbates the carbon footprint of dairy farming operations.

Furthermore, in an era where food safety and sustainability are of growing concern, maintaining the cold chain is imperative for the reputation and competitiveness of the dairy industry. Consumers are increasingly demanding transparency and accountability in food production processes, and adherence to cold chain standards is a testament to a commitment to quality and safety.

As we look to the future of dairy farming, it is imperative that we recognize the critical role of the cold chain in preserving the purity and integrity of dairy products. From farm to fork, every link in this chain must be fortified with precision and diligence. Governments, industry stakeholders, and consumers alike must collaborate to prioritize investments, regulations, and awareness campaigns that elevate the standards of cold chain management in dairy farming. Only then can we ensure that every glass of milk, every dollop of yogurt, and every slice of cheese upholds the promise of freshness, quality, and wholesomeness that defines the essence of dairy farming.

Vishal

OUR TEAM

Vishal Rai Gupta
Editor-In-Chief
vishal@pixie.co.in

Siddhi Gupta
Co-Editor
siddhi@pixie.co.in
editor.pcsl@gmail.com

Website: www.pixie.co.in

Designed By Prince

EDITORIAL BOARD MEMBER

Dr. J Tamizhkumaran
M.VSc., PGDEP., Ph.D.
(Ph. D in Veterinary & Animal
Husbandry Extension Education)
Dr. Anjali Aggarwal
Principal Scientist
Dr. Sanjay K Latkar
Alembic Pharmaceuticals Ltd

Dr. Manisha Singodia
(MVSc Veterinary Science, Jaipur)
Dr. Annanda Das
(Ph. D Scholar, WBUAFS, Kolkata)
Dr. M. Arul Prakash
(MVSc Assistant Professor, Tanjore)
Dr. B.L. Saini
(Ph. D IVRI, Izatnagar)

Dr. Bilawal Singh
(MVSc, Assistant Professor
Ludhiana)

Office :
Pixie Publication
Anand Vihar, near gogripur railway crossing, hanshi road, karnal-132001 (Haryana)

Editorial Policy is Independent. Views expressed by authors are not necessarily those held by the editors.

Registered as Newspaper by Register of Newspaper for India : **RNI No. HARBIL/2004/22481**

Editorial & Advertisements may not be reproduced without the written consent of the publishers. Whilst every care is taken to ensure the accuracy of the contents of **Dairy Planner**. The publishers do not accept any responsibility or liability for the material herein.

Publication of news, views and information is in the interest of positive Dairy industrial development in India. It does not imply publisher's endorsement. Unpublished material of industrial interest, not submitted elsewhere, is invited.

The Submitted material will not be returned.

Publisher, Printer : **Mr. Vishal Gupta** on Behalf of **Pixie Publication** Karnal.

Printed at : Jaiswal Printing Press, Chaura Bazar, Karnal-132001 (Haryana).

Published at : Anand Vihar, near gogripur railway crossing, hanshi road, karnal-132001 (Haryana)

Editor-In-Chief: Mr. Vishal Rai Gupta

All Legal matters are subject to Karnal.



ADVERTISEMENT

Biosint	03
Ecolex Animal Nutrition	01
Irides	39
Pixie Expomedia	02
The Dairy Expo	40

PRESS RELEASE

At the heart of the skills and AI revolution, Danone launches “DanSkills”, an innovative ... **16**



ICAR-DMAPR Organises Industry Interface Meet **17**

Saife Vetmed India Drew Wide Acclaim at Kisan Mela in Pantnagar **19**

World Veterinary Association and Brooke launch world's first Essential Veterinary Medicines ... **20**

ARTICLE

Page 06 Summer Stress Management In Dairy Animals
Neeti Lakhani, Preeti Lakhani and Gurslamat Singh

Page 08 Navigating Antimicrobial Resistance: Challenges, Opportunities, and Holistic Solutions
Vinod Kumar Palsaniya and Karishma Choudhary

Page 10 Renewable Cellulosic Nanocomposite: A Miracle in the Food Packaging
Manik Nager and Kanika Pawar

Page 12 Foot-and-Mouth Disease in India: An Epidemiological Journey
Munish Gangwar, Shiv Kumar Tyagi, Amit Kumar, and S.F. Ahmad

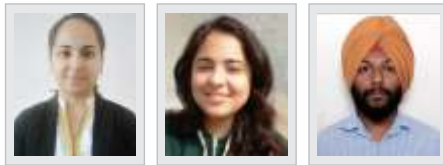
Page 14 The Challenge of Infertility in Bovines: A Concern For Indian Agriculture
Karishma Choudhary and Vinod Kumar Palsaniya

04 Editorial	38 Editorial Calendar
21 News	38 Subscription Form





Summer Stress Management In Dairy Animals



Neeti Lakhani¹, Preeti Lakhani² and Gurslamat Singh¹

¹.COVS, Rampura Phul, Bathinda, GADVASU

².Lala Lajpat Rai University of Veterinary and Animal Sciences, Hisar

Introduction:

Organisms, especially homeothermic or warm-blooded animals, possess the remarkable ability to maintain a relatively constant internal body temperature despite fluctuations in the external environment. This thermoregulatory process allows them to remain active and functional even in the face of extreme weather variations. However, thermoregulation is a complex and energetically costly process that involves both internal physiological mechanisms and external environmental factors (Nienaber et al., 1999).

Animals typically operate within a specific thermal comfort zone, where they can function optimally without expending excessive energy to either generate or dissipate heat. However, when ambient temperatures deviate from this range, animals must exert considerable effort to either generate heat (in cold environments) or dissipate excess heat from their bodies (in warm environments).

While animals can generally tolerate temperature decreases of about 20-30 degrees Celsius, the combination of heat and humidity during summer months poses significant challenges and can even endanger their lives. The Temperature Humidity Index (THI) is a measure used to assess heat stress in animals, with a THI exceeding 72 indicating stress. In regions like India, the tropical climate exacerbates these challenges, with temperatures soaring up to 45°C accompanied by dry or

humid conditions during the summer season (Table 1). This issue becomes more severe with the increasing prevalence of high-yielding animals, particularly crossbred breeds, which are more susceptible to heat stress (Das et al., 1999).

During summer, ambient temperatures in many areas exceed 40°C, surpassing the higher critical temperature for most animals. This disrupts their body's thermoregulatory mechanisms, requiring extensive efforts to dissipate excess body heat and maintain normal body temperature ranges.

Animal Susceptible:

While indigenous cattle breeds exhibit greater tolerance to heat stress, crossbred and exotic breeds are highly susceptible to its effects. Buffaloes, in particular, are more vulnerable due to their physiological characteristics. Their black skin absorbs more solar radiation, exacerbating heat absorption, and their lower number of sweat glands (only 1/6th that of cattle) limits their ability to dissipate heat through evaporative cooling. These factors collectively compromise their capacity to regulate body temperature effectively, making

Table 1. Susceptible months for animals

Part of India	Stressful months
Northern Part	May-September
Western Part	May-September
Southern Part	April-September
Eastern Part	April-October

them more prone to heat stress during periods of high ambient temperatures.

Impact of heat stress on animals:



Visible signs of Heat Stress in dairy animals:

- Animals instinctively seek shaded areas to mitigate the effects of solar heat exposure.
- To regulate their body temperature, animals may elevate their water intake while reducing their feed consumption.
- Animals tend to prefer standing rather than lying down to facilitate heat dissipation.
- Signs of heat stress include an elevated respiration rate, increased body temperature, and heightened production of saliva.
- Open mouth breathing and panting with an extended neck are common behaviours observed in animals experiencing heat stress.
- While sweating is limited in many animals, some may display excessive drooling as a means of dissipating heat.

Management of summer stress in animals:



- 1. Proper hosing and cooling system:-**
Adequate housing plays a crucial

role in managing heat stress effectively. Congested or poorly ventilated sheds can exacerbate

heat stress by restricting airflow and hindering the movement of animals within the enclosure.

Animal sheds should incorporate cross ventilation by incorporating appropriately sized

doors, windows, or open sidewalls. Strategies such as hanging wet gunny bags at the top of the shed can help reduce the impact of roof heat on the animals. Thus, ensuring proper housing with sufficient ventilation is essential for minimizing summer stress in livestock. Additionally, fans can be installed to enhance airflow within the shed. To further mitigate heat stress, provisions such as straw, bamboo, or jute bag mats can be hung at the open ends of the shed to provide cooling effects and shield animals from direct exposure to solar radiation. These measures contribute to creating a more comfortable and conducive environment for livestock during periods of elevated temperatures.

2. Feeding management:

Night feeding and avoid grazing in the peak hours will definitely have the considerable impact against stress. During periods of summer stress, when feed intake typically decreases, it is essential to adjust the animal's diet accordingly. This may involve increasing the concentration of protein to enhance nutrient density and providing high-quality forages, preferably in the form of total mixed rations.

Incorporating succulent fodders such as spineless cactus, azolla, and hydroponic fodder can be beneficial as they not only

supply essential nutrients but also contribute to hydration and improve the appetite of the animals. It is crucial to ensure that the feed and fodder provided are fresh and nutritionally rich to meet the increased demands of the animals during hot weather conditions (Krishnan et al., 2017).

3. Water management

Ensuring adequate access to clean and fresh drinking water is crucial for maintaining optimal production and reproduction traits in livestock, particularly during periods of summer stress. Milch animals, in particular, have increased water requirements for maintenance, production, and thermoregulation purposes (Nienaber and Hahn, 2007).

It is imperative to provide ample amounts of clean and wholesome water at easily accessible locations for livestock throughout the day and night. During the daytime, water should be offered in shaded areas to encourage consumption and minimize heat stress.

Water troughs should be strategically placed in various areas such as near milking stations, grazing areas, travel alleys, feeding areas, and within the animal shed to ensure convenient access for the animals. Regular cleaning of the troughs is essential to maintain water quality and hygiene standards. These measures collectively contribute to supporting the well-being and productivity of livestock during hot weather conditions.

4. Rumen modifiers :

Rumen is a complex ecosystem with a constant temperature. Use of various modifiers such as buffers, PSM, chelates, antibiotics, enzymes etc can help stabilize the ruminal environment.

Apart from the said management strategies a prior genetic selection, efficient breeding policy, reproductive management and timely treatment of diseased animals can help in managing the animals during summer months.



Navigating Antimicrobial Resistance: Challenges, Opportunities, and Holistic Solutions

Vinod Kumar Palsaniya and Karishma Choudhary

Email: kumarpalsaniyavinod@gmail.com

Introduction:

Antimicrobial resistance (AMR) is a global health and financial challenge to healthcare and individuals both. India is one of the world's biggest users of antibiotics and has a high prevalence of infectious diseases. The overuse and misuse of antibiotics have fueled the rise of superbugs—resistant pathogens that defy conventional treatments. Addressing AMR requires a comprehensive approach, encompassing the importance of antibiotics, the emergence of superbugs, prevention and control strategies, and innovative solutions such as the use of herbal alternatives in livestock farming.

Importance of Antibiotics:

Antibiotics are cornerstone medicines in modern healthcare, indispensable for treating bacterial infections and preventing complications in both humans and animals. From life-threatening conditions to routine surgeries, antibiotics play a vital role in combating infections and saving lives. However, the indiscriminate use of antibiotics in human healthcare, agriculture, and veterinary medicine has led to the emergence of resistant bacteria, diminishing the efficacy of these lifesaving drugs.

Superbugs: A Growing Menace:

Superbugs, including Methicillin-resistant *Staphylococcus aureus* (MRSA), Carbapenem-resistant Enterobacteriaceae (CRE), and multi-drug resistant tuberculosis (MDR-TB), represent a dire consequence of antimicrobial overuse. These resilient pathogens have evolved mechanisms to withstand multiple antibiotics, rendering conventional treatments ineffective and posing significant challenges to public health systems worldwide. Superbugs thrive in healthcare settings, communities, and animal populations, highlighting the urgent need for coordinated efforts to combat AMR.

Prevention and Control Strategies:

1. Antibiotic Stewardship: Antibiotic stewardship programs promote judicious antibiotic use, emphasizing appropriate prescribing practices, dosage optimization, and the importance of completing prescribed courses. By educating healthcare professionals and the public about the risks of antibiotic overuse, stewardship initiatives aim to minimize selective pressure on bacteria, thereby slowing the development of resistance.

2. **Prevention and Control of Infection:** Robust infection prevention and control measures are essential for containing the spread of resistant bacteria in healthcare facilities and community settings. These include stringent hand hygiene practices, proper sterilization of medical equipment, timely identification and isolation of infected individuals, and adherence to infection control protocols.
3. **Surveillance and Monitoring:** Comprehensive surveillance systems are critical for monitoring antimicrobial use and resistance patterns, detecting emerging threats, and informing evidence-based interventions. By tracking antimicrobial consumption, resistance trends, and outbreaks of resistant infections, surveillance mechanisms enable timely responses to mitigate the spread of AMR.
4. **Public Awareness and Education:** Public awareness campaigns play a crucial role in fostering understanding of AMR, promoting responsible antibiotic use, and encouraging adherence to preventive measures. By empowering individuals to make informed decisions about their health and advocating for policy changes to combat AMR, public education initiatives contribute to collective efforts to address this global health crisis.

Herbals Used in Livestock Farming:

The use of herbal alternatives in

livestock farming offers a sustainable approach to reducing reliance on antibiotics and combating AMR. Herbal supplements and extracts contain bioactive compounds with antimicrobial properties, which can promote animal health and enhance immunity without contributing to resistance development. Several studies have demonstrated the efficacy of herbal remedies in improving livestock productivity, enhancing gut health, and reducing the incidence of infectious diseases.

For instance, essential oils derived from plants such as oregano, thyme, and garlic have been shown to exhibit broad-spectrum antimicrobial activity against common livestock pathogens, including *Escherichia coli*, *Salmonella*, and *Clostridium perfringens*. By incorporating herbal supplements into animal feed or administering them as topical treatments, farmers can support animal well-being, reduce the need for antibiotics, and mitigate the risk of AMR transmission in agricultural settings.

Conclusion:

Antimicrobial resistance is a complex and multifaceted challenge that demands concerted action from stakeholders across sectors. By recognizing the importance of antibiotics, addressing the proliferation of superbugs, implementing evidence-based prevention and control strategies, and exploring innovative solutions like herbal alternatives in livestock farming, we can mitigate the impact of AMR and preserve the efficacy of antimicrobial treatments for future generations.

References:

- World Health Organization. (2021). Antimicrobial resistance. <https://www.who.int/news-room/fact-sheets/detail/antimicrobial-resistance>
- Centers for Disease Control and Prevention. (2020). Antibiotic/Antimicrobial Resistance (AR/AMR). <https://www.cdc.gov/drugresistance/index.html>
- European Centre for Disease Prevention and Control. (2021). Antimicrobial Resistance in the EU/EEA (EARS-Net) - Annual Epidemiological Report 2019.
- Dahiya, J. P., Wilkie, D. C., Van Kessel, A. G., & Drew, M. D. (2006). Potential strategies for controlling necrotic enteritis in broiler chickens in post-antibiotic era. *Animal Feed Science and Technology*, 129(1-2), 60-88.
- Windisch, W., Schedle, K., Plitzner, C., & Kroismayr, A. (2008). Use of phytogenic products as feed additives for swine and poultry. *Journal of Animal Science*, 86(14 Suppl), E140-8.
- Upadhyay, A., Johny, A. K., Amalaradjou, M. A. R., Baskaran, S. A., & Kim, K. S. (2014). Plant-derived antimicrobials reduce *Listeria monocytogenes* virulence factors in vitro, and down-regulate expression of virulence genes. *International Journal of Food Microbiology*, 189, 1-9.



Renewable Cellulosic Nanocomposite: A Miracle in the Food Packaging

Manik Nager¹ and Kanika Pawar^{2*}

¹Department of Renewable and Bio Energy Engineering,

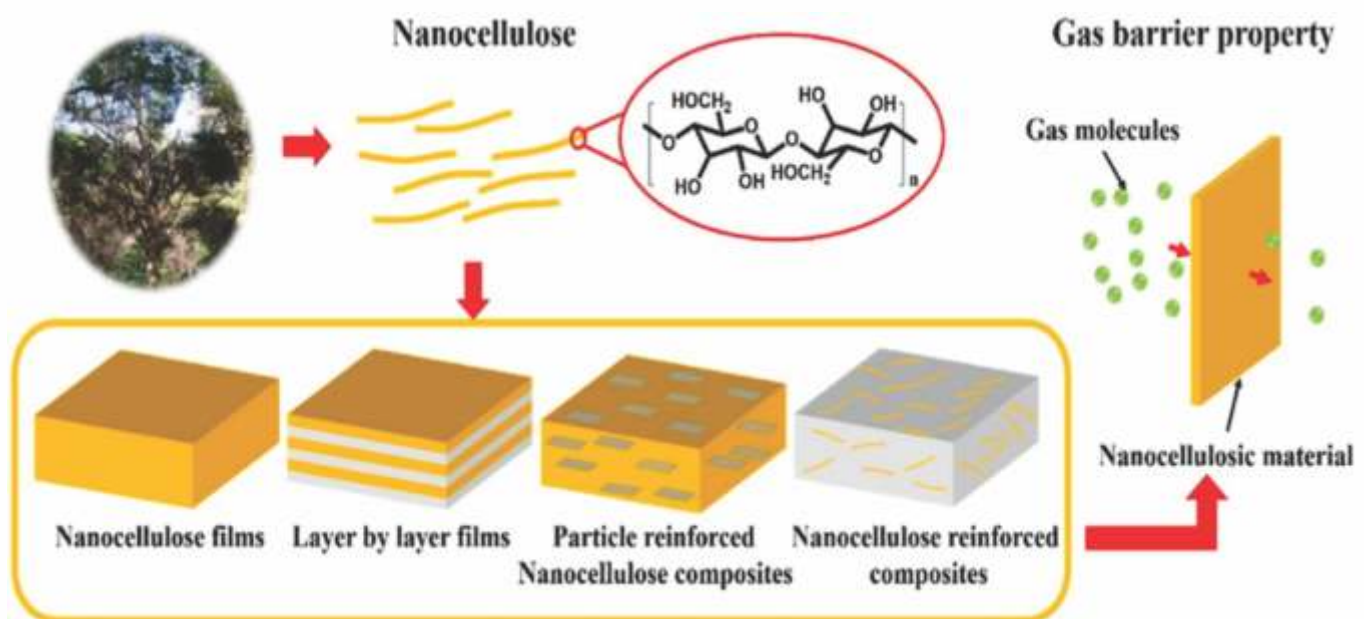
²Centre of Food Science and Technology, CCS Haryana Agricultural University, Hisar (Haryana)-125004, *Corresponding Author Email:kanikapawar@gmail.com

Packaging is used to protect food quality and give customer hygienic safety. It assists in the managing, conveyance, and storing of food goods by shielding them from biological, chemical, and physical harm. Additionally, it provides information about the products, such as their ingredients, features, and nutritional worth. Petroleum-based plastics have been used in the food business for many years because of their appealing qualities, which include affordability, flexibility, safety, and variety. Despite these benefits, non-biodegradability, disposal, and recycling of these materials are major drawbacks. Biopolymers, which can be obtained from marine and agricultural sources, are becoming a growing trend due to their renewable and economical nature as compared to conventional petroleum materials.

The cellulose based nanocomposites are the materials which are developed from cellulose plant material and which involves isolation of nanocellulose from cellulose and reinforcement of nanocellulose in polymers. Because of cellulose's high specific surface area and nanoscale structure, cellulosic nanocomposite has remarkable mechanical, optical, biodegradation, and barrier capabilities. Further adding cellulose nanoparticle to composite materials improves their mechanical properties; however, adding too many causes agglomeration, which results in poor mechanical performance.

Applications of cellulosic nanocomposite: -

Renewable cellulosic nanocomposite in gas/moisture barrier



Because of their use in the packaging industry, gas barrier materials are becoming more and more popular. To stop food, drink, and medication from deteriorating, these packaging materials must be impermeable to gases like oxygen, water vapor, CO₂, and N₂. Cellulosic nanocomposites can enhance the gas barrier properties of packing materials by limiting the entry of gases and oxygen that can degrade food quality and shelf life. Enhancements to the moisture barrier inhibit the growth of microorganisms and the absorption of moisture, which helps in maintaining the freshness of food.

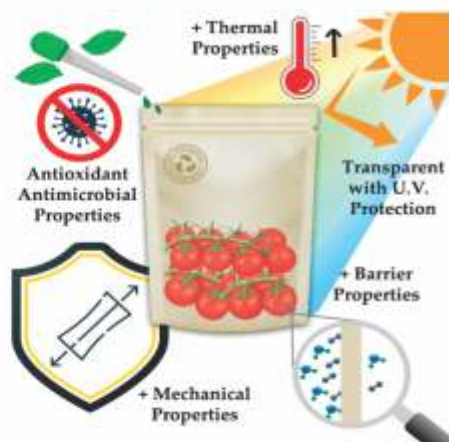
Biodegradability

The discovery of substitute materials for traditional packaging polymers is crucial, as plastic pollution is a global concern. Packaging materials made of green bio-based polymers, such as nanocellulose, can be combined with other green polymers or inorganic particles, or utilized alone. Green polymers that degrade naturally, such as polylactic acid (PLA), chitosan, starch, protein, and agar, are being utilized as substitutes for conventional packaging materials.



Traditional Plastic Packaging

Bionanocomposite Packaging



Mechanical strength

Cellulosic nanocomposites can improve the mechanical strength and stiffness of packaging

materials, by providing better protection for food products during handling, transportation, and storage. The absolute qualities of a composite are mostly determined by the mechanical characteristics of the fillers. It is also well-known to be beneficial when choosing reinforcement materials. The polymer matrix of cellulose nanoparticles receives strong and high rigidity from the crystalline region.

Antimicrobial properties

Antimicrobial compounds, such as essential oils, antimicrobial peptides, or metal nanoparticles, can be injected or coated on the cellulosic nanocomposites. These substances can stop the growth of fungi, bacteria, and other microbes. The growth of fungus and bacteria on the packing material's surface is prevented by the antibacterial compounds. This is essential for keeping food products from becoming contaminated or spoiling.

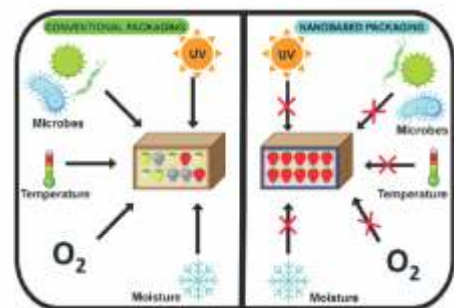
Protecting food from UV rays

UVA and UVB radiation cause more biological harm and organic compound destruction when exposed to excessive amount of

sunshine. Sunburned skin, weathering, yellowing of plastics and papers, discoloration of dyes and pigments, and other issues related to UV light are all caused by

UV radiation. The most prevalent natural polymer found in nature, cellulose is biocompatible, renewable, and biodegradable. The coefficient of thermal expansion (CTE) of cellulose film is substantially lower than that of plastic substrates. Compared to many plastics, cellulose materials can withstand a significantly higher processing temperature. Cellulosic film has the high transparency and flexibility to replace plastic substrates in a variety of applications. Cellulosic nanocomposite may prevent light-induced destruction of delicate food constituents, such as flavors and vitamins, by offering UV protection.

Used in smart packaging



The creation of intelligent packaging may result from the integration of nanocomposites with sensing properties. In packaging, nanosensors are also used for the identification of food deterioration or freshness.

Conclusion

The use of renewable cellulosic nanocomposite in food packaging has created new opportunities for the production of sustainable products that could take the place of traditional synthetic materials that harm the environment. Nanocomposite materials, particularly those reinforced with cellulose, the planet's most common biopolymer, have been emphasized as a major substitute for synthetic goods.



Foot-and-Mouth Disease in India: An Epidemiological Journey

Munish Gangwar, Shiv Kumar Tyagi, Amit Kumar, and S.F. Ahmad

Affiliation: Division of Animal Genetics, ICAR-Indian Veterinary Research Institute, Izatnagar 243122, Bareilly, Uttar Pradesh, India

*Correspondence: firdousa61@gmail.com

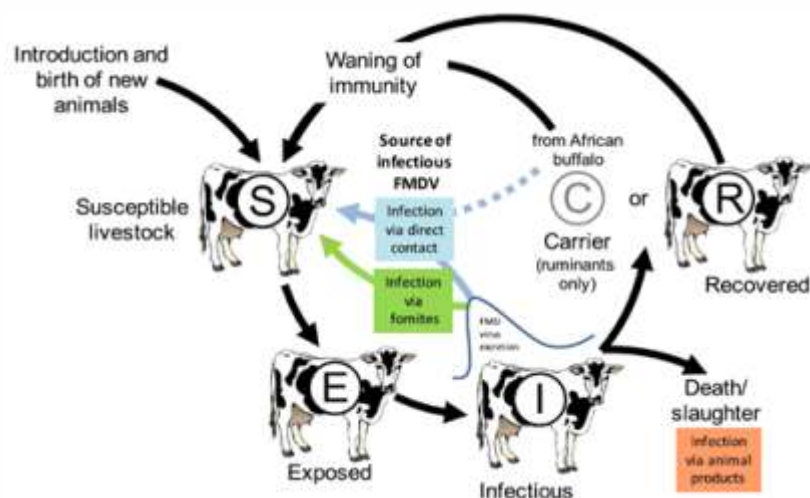
Foot-and-mouth disease (FMD) is a significant viral disease affecting large ruminants in India, affecting cattle, buffalo, and pig populations. It causes severe symptoms like high fever, excessive salivation, and decreased milk yield. The disease is caused by the Foot-and-Mouth Disease Virus (FMDV) and is highly contagious, causing higher morbidity and mortality rates in susceptible populations. The genetic material of the virus is ribonucleic acid (RNA). FMDV infection in India dates back to 1864 and has been reported in various parts of the country. Four of the seven known FMDV serotypes were reported in livestock in India before 1995, with type O reported in 1944, type A in 1959, type C in 1955, and type Asia1 in 1951. India had not recorded FMDV serotype C since 1995 due to quadrivalent vaccination and unexplained

reasons. Currently, only three serotypes (O, A, and Asia1) are reportedly circulating in the livestock population of India. Inactivated FMDV vaccines are available in the Indian market, and routine vaccination is the best way to achieve protective antibody response against FMD in vaccinated animals.

Foot-and-mouth disease control programme in India

The Indian government has initiated a progressive control pathway for Foot-and-mouth Disease (FMD) following protocols from the Office Internationale-des-Epizooties (OIE)/Food and Agriculture Organisation (FAO) to reduce losses in susceptible livestock populations. The nine major activities that are being undertaken in the FMDCP are:

1. To vaccinate cattle and buffaloes at six monthly intervals.



2. Publicity and mass awareness campaigns.
3. Identification of target animals.
4. Sero-surveillance and monitoring of animal population on random basis.
5. Mass vaccination.
6. Procurement of cold cabinets and vaccine.
7. Quality assessment of randomly collected samples from vaccine preparations.
8. Typing of FMDV in case of outbreaks.
9. Recording/regulation of animal movement from unvaccinated areas.

The FMD vaccine, administered at six monthly intervals, is being tested to determine if it elicited a protective immune response in vaccinated large ruminants. Serum samples are collected from randomly selected 10 villages in each district, including cattle and buffaloes, after every vaccination. Around 400 samples are tested from each district to evaluate if the vaccine elicited enough neutralizing antibody response and protection to prevent future FMD outbreaks. India has around 733 districts, and data for two subsequent years 2017-2018 and 2018-2019 is needed to arrive at the appropriate level of protective antibody response. However, early workers noted the weakness of national eradication schemes in India, as testing data for cattle and buffaloes from randomly selected villages is unavailable.

Vaccines and vaccination for Foot-and-mouth disease in India

The Directorate of FMD in India is

responsible for continuous surveys, monitoring, and collection of clinical samples for virus typing and isolation from susceptible livestock populations during disease outbreaks. The national FMDV repository has 2,188 FMDV isolates, which are used in genotyping studies and vaccine matching experiments. Vaccines are an important tool in controlling FMD in India, with trivalent inactivated FMDV vaccines currently used in immunization programs. India is continuously working to increase its capability to produce sufficient doses of FMD vaccines required for FMDCP to cover vaccination of small and large ruminants and pigs. Private vaccine manufacturers like Intervet, Biovet, and Brilliant Biopharma Pvt. Ltd. are ramping up the production of doses to cover domestic needs and export to demanding countries. The Government of India extends financial help to Indian states for procurement and administration of vaccines to the susceptible livestock population for prevention of FMD. During FMD outbreaks, economic losses can be up to 80.68% due to reduced milk yield. To contain these losses, vaccination to susceptible livestock populations is necessary. India ranks first in milk production (176.3 million tonnes in 2017-2018). Rapid diagnostic testing kits allow early detection of FMD, aiding in devising preventative and control strategies. However, critics argue that there is over 20% reactivity to FMD non-structural protein (NSP) 3AB3 indicative of FMDV exposure in field animals, indicating poor vaccine quality. Despite these

challenges, FMDCP in India has achieved success in reducing FMD outbreaks.

Reduction in Foot-and-mouth disease outbreaks reported in India

The Foot-and-mouth Disease Control Programme (FMDCP) in India has seen a significant reduction in FMD outbreaks from 2002-2012 due to comprehensive sero-monitoring, epidemiological investigations, increased diagnostic capabilities, trained manpower, and vaccine manufacturing capacity. The National Animal Disease Control Programme (NADCP) was launched in 2019 to vaccinate 600 million animals to control FMD and Brucellosis. However, there are criticisms, such as the underreporting of FMD incidence in states. To increase transparency, the processes of vaccinations, blood collections, and follow-up should be recorded digitally, and location tracing applications can be developed to monitor actions of vaccinators and workers. Monetary incentives for reporting the incidence of the disease can also help prevent and control it. To spread awareness among common man and livestock owners about the FMDCP, more coverage by print and press media is needed. Additionally, addressing the epidemiology and transmission of the disease in a better way can help address concerns among animal owners. In conclusion, the FMDCP is a crucial initiative in India's fight against FMD, but it requires further efforts and awareness to ensure its effective implementation.



The Challenge of Infertility in Bovines: A Concern For Indian Agriculture



Karishma Choudhary and Vinod Kumar Palsaniya
M.V.Sc. (LPM), CVAS, Navania, Vallabh Nagar, Udaipur.

Infertility in bovines stands as a critical issue within the agricultural landscape of India, posing significant challenges to both farmers and the national economy. With a substantial dependence on bovines for dairy production, draught power, and agricultural activities, the occurrence of infertility disrupts the productivity and sustainability of the livestock sector.

Understanding the complexities surrounding bovine infertility is crucial for implementing effective measures to mitigate its impacts and enhance the livelihoods of millions involved in the dairy and agriculture sectors across India.

Bovine infertility:

Bovine infertility refers to the inability of cattle and buffalo to conceive or maintain pregnancy, leading to reduced reproductive efficiency and lower fertility rates within herds. Various factors contribute to infertility in bovines, encompassing environmental, genetic, nutritional, and management-related aspects.

1. Environmental factors:

India's diverse climatic conditions expose bovines to a range of environmental stressors, including extreme temperatures, humidity, and inadequate shelter. These stressors can adversely affect reproductive processes, leading to decreased fertility rates among cattle and buffalo populations.

2. Genetic factors:

Genetic predispositions to reproductive disorders play a significant role in bovine infertility. Inbreeding, poor selection practices, and the prevalence of genetic abnormalities contribute to reduced fertility rates and reproductive inefficiencies in bovine populations across India.

3. Nutritional factors:

Nutritional deficiencies, imbalances, and inadequate feeding practices impact reproductive performance in bovines. Poor-quality feed, insufficient access to clean water, and deficiencies in essential nutrients such as vitamins and minerals compromise the reproductive health of cattle and buffalo, leading to increased infertility rates.

4. Managemental factors:

Inadequate management practices, including improper breeding protocols, inadequate healthcare services, and suboptimal housing conditions, exacerbate the challenges associated with bovine infertility. Limited access to veterinary care and reproductive technologies further hinders efforts to address infertility issues effectively.

Impacts on agriculture and livelihood:

The prevalence of infertility in bovines significantly impacts agricultural productivity, dairy

production, and rural livelihoods across India. Reduced fertility rates diminish the number of offspring and limit the expansion of livestock herds, thereby restricting the potential for increased milk production and agricultural output. Moreover, infertility-related losses impose financial burdens on farmers, impeding their ability to invest in improved breeding practices, healthcare services, and infrastructure upgrades.

Addressing the Challenges: Strategies and Interventions:

To combat the multifaceted challenge of bovine infertility in India, concerted efforts are required at various levels, encompassing research, policy interventions, capacity building, and technology dissemination. Key strategies to address bovine infertility include:

- 1. Genetic Improvement Programme:** Implementing structured breeding programs aimed at enhancing the genetic diversity and reproductive performance of bovine populations through selective breeding and genetic selection strategies.
- 2. Nutritional Management:** Promoting optimal feeding practices and ensuring access to high-quality feed and nutritionally balanced diets to support reproductive health and fertility in cattle and buffalo.
- 3. Health care services:** Strengthening veterinary healthcare services and extension programs to provide timely reproductive health management, disease prevention, and fertility-

related interventions to bovine populations.

- 4. Research and Innovations:** Encouraging research and development initiatives to better understand the underlying causes of bovine infertility, develop innovative reproductive technologies, and enhance diagnostic capabilities for early detection and intervention.
- 5. Awareness and Training:** Conducting farmer training programs, workshops, and awareness campaigns to disseminate knowledge, build capacity, and promote best practices in bovine reproductive management and infertility prevention.

Conclusion:

Infertility in bovines remains a significant impediment to the sustainability and productivity of India's livestock sector, posing challenges to agricultural development and rural livelihoods. Addressing the complexities of bovine infertility requires a holistic approach integrating research, policy support, technological innovation, and community engagement to improve reproductive outcomes and enhance the resilience of bovine populations against environmental, genetic, and management-related stressors. By prioritizing investments in infrastructure, healthcare services, and capacity-building initiatives, India can foster a more robust and resilient livestock sector, ensuring the well-being of farmers, enhancing food security, and sustaining economic growth in rural communities for generations to come.

References:

- Dutt, R., & Kumar, P. (2018). Causes and effect of infertility in cattle and buffalo: A review. *Journal of Entomology and Zoology Studies*, 6(1), 153–158.
- National Dairy Development Board (NDDB). (2020). Annual Report 2019–2020. Retrieved from <https://www.nddb.coop/information/annual-reports>
- Pathak, A. K., & Gupta, A. (2018). Impact of heat stress on reproductive performances of dairy cattle and buffaloes: A review. *Veterinary World*, 11(6), 744–749.
- Singh, J., et al. (2020). Management practices for enhancing reproductive efficiency in cattle and buffalo. *Indian Journal of Animal Sciences*, 90(4), 571–581.
- Singh, S., Yadav, B. R., & Yadav, S. K. (2016). Reproductive biotechnologies in cattle: Present and prospects. *Journal of Animal Research*, 6(4), 663–676.



At the heart of the skills and AI revolution, Danone launches “DanSkills”, an innovative global training program

True to the spirit of its dual commitment to business success and social progress, which places men and women at the heart of its growth model, Danone is preparing to meet the challenges of tomorrow with DanSkills. This innovative training program has two primary objectives: upskill all 100,000 Danone employees for the jobs of the future and attract new talent. Between now and 2030, Danone plans to reallocate 1 million training hours annually to help its people learn tomorrow's skills, and a budget of €100 million over the period. This global project includes the creation of a dedicated management training center at Danone's historic Evian site.

Revolutions in digital technology and artificial intelligence, coupled with the environmental and demographic transitions, have prompted business to radically rethink the world of work and invent sustainable new organizational models.

Amid these profound upheavals, Danone has created the DanSkills program to both prepare its workforce for the coming skills revolution and prepare to fill the 2,500 positions in Europe, including over 500 in France, that the company anticipates it will need by 2027.

DanSkills' debut marks the first step in building the new Social Pact launched by Danone CEO Antoine de Saint-Affrique in 2023,

when he gathered an expanded team of leaders and experts to reflect on the human and social challenges in the years ahead.

Rooted in the company's dual commitment to business success and social progress, DanSkills is an integral part of Danone's Impact Journey commitments, and will be open to all Danone employees, anywhere in the world at any point in their careers. It will give each of them the opportunity to pursue career opportunities in line with their professional aspirations. In the process, DanSkills will strengthen Danone's potential for innovation, creativity, shared efficiency, and performance.

Concretely, this global skills development program:

- will be deployed in the 55 countries where Danone operates, and be open to all employees, regardless of qualification, job or age;
- will be formalized by Danone's commitment to reallocate 1 million training hours a year to the jobs of the future, starting in 2024;

- is designed to be expanded to include Danone's key external partners, bringing its entire ecosystem into the digital, environmental and food transitions.

Altogether, Danone estimates the budget needed to train Danone employees in the jobs of tomorrow at €100 million between now and 2030

About Danone

(www.danone.com)

Danone is a leading global food and beverage company operating in three health-focused, fast-growing and on-trend categories: Essential Dairy & Plant-Based products, Waters and Specialized Nutrition. With a long-standing mission of bringing health through food to as many people as possible, Danone aims to inspire healthier and more sustainable eating and drinking practices while committing to achieve measurable nutritional, social, societal and environment impact. Danone has defined its Renew strategy to restore growth, competitiveness, and value creation for the long-term.



ICAR-DMAPR Organises Industry Interface Meet

ICAR-Directorate of Medicinal and Aromatic Plant Research, Anand organised an Industry Interface Meet jointly in collaboration with the IP&TM Unit, ICAR today.

The Chief Guest Dr. Trilochan Mohapatra, Chairperson, Protection of Plant Varieties and Farmers Rights Authority, New Delhi, and former Secretary (DARE) & DG (ICAR) emphasized the need for collaborations between research organizations and industry for the growth of the herbal sector in the country. He opined that there is a need for mainstream agricultural production of medicinal plants to improve the yield and quality of raw drugs. Dr. Mohapatra urged for a holistic approach in developing the value chain of medicinal plants in the country.



Dr. Manish Das, Director, ICAR-DMAPR, Anand, highlighted the various achievements of the directorate in innovation and technology development. He emphasized the need for innovative technologies for the promotion of medicinal and aromatic plants in the country.



Dr. S. N. Gupta, Vice-Chancellor, Maganbhai Adenwala Mahagujarat University, Nadiad, briefed about the principle of Ayurveda and the concept of how herbal industries and farmers can flourish in terms of business and money without diluting the principle and idea of Ayurveda.

Dr. M. K. Jhala, Director, Research, Anand Agricultural University, Anand, emphasized the present scenario of the herbal market, and current research trends and shared information on some of the salient achievements of AAU, Anand in medicinal plants.

Dr. Kaushik Banerjee, Director, ICAR-National Research Center Grapes, Pune highlighted the issues relating to authentication, adulteration, and possible contamination of herbal products both in raw and processed form that can affect the trade and export ultimately affecting business.

Shri. Somainder Singh, General Manager, NABARD, Gujarat delivered a lecture on the Role of NABARD in the promotion of start-ups and small businesses in Gujarat Shri Singh described the various schemes supported by NABARD for the benefit of Startups.

A technology booklet 2.0, three leaflets, an institute newsletter, an ashwagandha photobook, and a folder were released during the programme. DMAPR herbs, a mobile application of the institute was launched during the program. A panel discussion was held, wherein progressive farmers and start-ups emphasized marketing strategy and availability of quality planting material for the promotion of MAPs in the country. An exhibition was also arranged during the event where various incubators and others exhibited their licensed technologies/products.

A total of 70 delegates from different industries, startups, entrepreneurs, farmers, and others participated in the industry-Interface meet 2.0.



भारतीय कृषि अनुसंधान परिषद
INDIAN COUNCIL OF AGRICULTURAL RESEARCH
Ministry of Agriculture and Farmers Welfare

(Source: ICAR-Directorate of Medicinal and Aromatic Plants Research, Anand, Gujarat)

Saife Vetmed India Drew Wide Acclaim at Kisan Mela in Pantnagar

Saife Vetmed India, a leading provider of innovative veterinary solutions, proudly announces its successful participation at the Kisan Mela organized by GB Pant University from March 9th to 12th, 2024. The event showcased Saife Vetmed India's product range received widespread acclaim for their innovation and effectiveness in addressing dairy industry challenges.

Saife Vetmed India's products garnered significant attention from attendees, particularly in the dairy sector. Among the standout offerings were:

- 1. Novadip:** A revolutionary solution for leaky teat problem, dry cow therapy and mastitis control. Novadip emerged as the highlight of Saife Vetmed India's product portfolio. Its innovative formulation and remarkable efficacy captured the interest of dairy farmers seeking effective solutions for these common issues.
- 2. Celmanax:** Designed to combat calf scours issues, Celmanax attracted considerable attention for its efficacy and reliability. Dairy farmers recognized its potential to address this prevalent concern, highlighting its importance in maintaining calf health.
- 3. Oregostim:** Serving as an appetizer, Oregostim gained traction for its ability to enhance feed

intake and promote overall animal health. Its multifaceted benefits resonated not only with dairy farmers but also with agriculturalists and households seeking effective nutritional supplements for their livestock.

- 4. Flyend:** A comprehensive solution for fly control, Flyend drew widespread interest from dairy farmers, agriculturists, and household individuals alike. Its effectiveness in managing fly infestations was acknowledged as a crucial component of maintaining animal welfare and hygiene standards.

For more information about Saife Vetmed India and its range of veterinary solutions, visit [www.saifevetmed.com] or contact our dairy executive at enc4u@saifevetmed.com/8882861086.

About Saife Vetmed India

Saife Vetmed Pvt. Ltd. is a decade old veterinary company from India, known for its innovative and quality assured products. Manufacturing, Marketing and Exports are the key features of Saife. It caters to a wide idea of products ranging from Healthcare Products, Feed Supplements and Biosecurity for Poultry, Ruminant, Equine and Aqua.

115th Kisan Mela - Pantnagar



115th Kisan Mela - Pantnagar



World Veterinary Association and Brooke launch world's first Essential Veterinary Medicines List (EVML) for Food Producing Animals

The World Veterinary Association (WVA) and global animal welfare organisation Brooke have launched the first-ever global list of essential veterinary medicines for food producing animals. The list will help to improve access to safe and effective medicines and vaccines for veterinarians around the world and act as a valuable tool to help respond to the global threat of Antimicrobial Resistance (AMR) and to support pandemic prevention preparedness plans under development.

The list contains core medicines and vaccines, selected for their relevance, efficacy and cost effectiveness by expert working groups. The phase 1 of this important project provides the essential medicinal needs of equids, large ruminants, pigs, goats and sheep. Phase 2 has started and focuses on poultry, rabbits, while phase 3 will follow with the inclusion of aquaculture and bees.

Dr Olatunji Nasir, WVA's Pharmaceutical Stewardship Working Group Chair, said 'The EVML will help veterinarians and authorities in making better choices of medicines, biologics and vaccines supply, fitting to local needs. As veterinarians we are gatekeepers of the next pandemic because of the profound roles we play in the control of zoonoses, this is a responsibility that we share with authorities and agencies in our various jurisdictions. Together, we stamp our feet in the one-health pathway.'

Dr Shereene Williams, Brooke's Senior Manager of Global Animal Health, added 'We are incredibly proud to have led the development of the EVML alongside the WVA. This

list is the product of global veterinary expertise and collaboration and is a critical first step in ensuring all animals around the globe have access to medicines and vaccines to keep them healthy and minimise their pain and suffering.'

Animal health, which is deeply interconnected with human and environmental health, is dependent on access to safe and effective veterinary medicines. However, in many regions around the world, these are not readily available. The World Health Organization (WHO) estimates that around two billion people have no access to essential medicines and it is believed the issue is even worse within animal populations. In a survey of veterinarians conducted by the founders of the list, 80% of respondents felt that challenges in accessing veterinary medicines restricts veterinarians' ability to address animal health and welfare.

WVA and Brooke's EVML list gives regulatory authorities and governments a blueprint for countries or regions to develop their own tailored lists, considering the pathogens and diseases specific to

their region. This will help ensure that medicines and therapeutics are more readily available to all veterinary professionals and help prevent future pandemics of zoonotic diseases like COVID-19 and avian influenza. The list is a valuable tool in reducing the growing threat of AMR and adheres to World Organisation for Animal Health (WOAH) recommendations on prudent antimicrobial use.

As with the WHO's Model Lists of Essential Medicines, the EVML for food producing animals will be a free-to-access resource regularly updated on a calendared basis, seeking global contributions to ensure its continued relevance and effectiveness.

The list can be viewed here worldvet.org/evml/

About World Veterinary Association

The WVA is the voice and unity of the global veterinary profession. Our key priority areas are Animal Welfare, Pharmaceutical Stewardship, Veterinary Education and One Health. We promote them through advocacy, education, and partnership.



Evonik Vland Biotech: Innovating Probiotic Solutions for Animal Gut Health in Qingdao, China

Evonik Vland Biotech, a joint venture between Evonik China and Shandong Vland Biotech, will start operations in Binzhou, China, on January 1, 2024.

The venture aims to increase the market presence of products such as probiotics for livestock gut health in Greater China while also developing new solutions. March 14 marked the official opening in Qingdao. This partnership is critical to Evonik's strategy of providing biosolutions for the feed industry, with a focus on animal gut health. The joint venture draws on the strengths of both parent companies to provide innovative products and solutions with a customer-centric focus.

Evonik's biotech platform focuses on developing biosolutions for a healthy lifestyle, combining chemistry, biotechnology, pharmacology, and

data science. To supplement its existing Care Solutions portfolio, the company is expanding into new areas, such as skin applications. The collaboration with Vland has been ongoing for nearly a decade, laying a solid foundation for future growth and innovation. The joint venture is located at the Vland Biotech Park in Qingdao and makes use of Vland's production facilities in Huimin, establishing itself as an innovative solution provider with a focus on quality, speed, and customer proximity.

The joint venture's scope extends beyond Greater China, with Evonik planning to distribute its portfolio globally. This move expands Evonik's existing gut health portfolio by adding new components to formulated products, thereby improving gut health solutions. Probiotics such as Ecobiol®, Fecinor®, GutPlus®, and GutCare® are important products in Evonik's Animal Nutrition business line, helping to maintain gut microbial balance and increase animal resilience. Evonik holds a 55% stake in Evonik Vland Biotech (Shandong) Co., Ltd., demonstrating its

commitment to the partnership with Vland.

Evonik, a global leader in specialty chemicals, has operations in over 100 countries and is committed to providing customers with innovative, sustainable solutions. In 2023, the company had sales of €15.3 billion and adjusted EBITDA of €1.66 billion. Evonik's mission extends beyond chemistry, with the goal of improving people's lives now and in the future through the combined efforts of its 33,000 employees.

The establishment of Evonik Vland Biotech represents a significant step forward in Evonik and Vland's collaboration to improve the animal nutrition industry through innovative biosolutions.

The joint venture's focus on gut health solutions, leveraging the expertise of both parent companies, demonstrates its commitment to providing effective and efficient products to customers in China and around the world. Evonik's strategic partnership with Vland is consistent with its vision of providing sustainable solutions and driving growth in the feed industry.



SIG Showcases Sustainable Packaging Solutions at 50th Dairy Industry Conference in Hyderabad

hour and switch between four volumes (180 to 250 ml), reducing costs, time, and waste. SIG SmileSmall is available with a straw or closure and can also be used to fill beverages with particulates.

Volume changeover on SIG filling machines is quick and easy, taking less than 15 minutes, providing maximum flexibility.

SIG's trade fair presentation also

emerging market needs. SIG is committed to providing customers and consumers with safe, sustainable, and cost-effective packaging solutions, and such events allow us to gain market insights and improve our offerings."

Vandana Tandan, SIG's head of markets for India and Bangladesh, added, "The dairy sector plays a significant role in India's diverse and expansive FMCG industry. The Indian dairy industry has recently experienced remarkable growth, and it is expected to continue on this trajectory. It represents an excellent opportunity for SIG to increase its market presence in the country and gain a larger share of the industry. The 50th Dairy Industry Conference provided an ideal opportunity to showcase our innovative packaging solutions and efficient filling technology, as well as to meet industry leaders and form new relationships."

Dhandutt Shah, managing director India for SIG's bag-in-box and spouted pouch business, stated, "SIG is committed to providing high-quality and advanced packaging solutions to its customers and consumers." The global demand for bag-in-box and spouted pouches has increased exponentially. Events like the Dairy Industry Conference provide an excellent opportunity to showcase our cutting-edge technology and packaging solutions."

This year's Dairy Industry Conference focused on Indian Dairying: Innovation and Entrepreneurship. The conference, which featured Indian and international exhibitors from all over the world, aimed to address current issues in dairy entrepreneurship, backed up by industry innovations.

The conference took place at a time when the Indian dairy industry was



At the 50th Dairy Industry Conference, hosted by the Indian Dairy Association (IDA), SIG demonstrated its innovative and sustainable packaging solutions. During the three-day event in Hyderabad, Telangana, SIG demonstrated a variety of innovative packaging and cutting-edge filling technologies.

At this year's conference, SIG introduced its flagship small-size carton packaging solutions, SIG XSlimBloc and SIG SmileSmall. The SIG XSlim 24 filling machine can fill 24,000 SIG XSlimBloc carton packs per hour and can accommodate nine different volume sizes (ranging from 80 to 200 ml) on the same filling line.

The SIG SmileSmall 24 filling machine for SIG SmileSmall can also fill 24,000 carton packs per

focused on family-sized carton packaging. The main focus was on SIG SlimlineBloc and SIG MidiBloc, which are available in volume sizes ranging from 500 to 1,000 ml.

SIG's long history of industry-leading sustainability innovations now includes bag-in-box and spouted pouches. They also played an important role in SIG's portfolio presentation at the Dairy Industry Conference.

Abdelghany Eladib, president and general manager IMEA at SIG, stated, "India, as a leading milk producer accounting for 24% of global milk production, is an important destination for SIG. The Dairy Industry Conference provides an excellent opportunity to network with industry professionals and experts, allowing us to better understand the challenges and

experiencing remarkable growth. Today, India is the world's largest producer of milk, with an annual production capacity of 221.06 million tonnes in 2021-22, accounting for 23% of global milk production. According to a report from the International Market Analysis Research and Consulting Group (IMARC), the market is expected to reach Rs 30.84 lakh crore by 2027.

SIG demonstrated its innovative packaging solutions and filling technology for the second time at this conference. The Swiss-based packaging solution provider entered the Indian market in 2018 and has rapidly expanded its operations in the country. The company recently began construction of its first carton plant in Ahmedabad, Gujarat. With an investment of approximately €100 million from 2023 to 2025, the production capacity of this packaging plant is expected to reach 4 billion packs per year in phase 1.

Honorary Degrees Conferred on Dr. K.M. Bujarbaruah and Dr. D.V.K Prakashrao at ICAR-NDRI Convocation

The 20th Convocation of the ICAR-National Dairy Research Institute was held today in Karnal, Haryana. Dr. Dheer Singh, the institute's director and Vice Chancellor of Deemed University, declared it open. Padma Bhushan Dr. R.S. Paroda, former Secretary (DARE), Director General of the Indian Council of Agricultural Research, and Chairman of TAAS, delivered the convocation address. A total of 278 students were awarded degrees, with 49 receiving B. Tech degrees,

127 receiving Master's degrees, and 102 researchers receiving PhD degrees.



Dr. Dheer Singh, Director of the Institute and Vice Chancellor of Deemed University, presided over the Convocation and stated that the ICAR-National Dairy Research Institute, Karnal is using advanced cutting-edge technologies for the multiplication of elite germplasm to produce superior breeds of cattle and buffalo. He encouraged the students to become entrepreneurs rather than looking for jobs. Dr. Singh went on to say that the Institute plays an important role in human resource development by providing students with a B. Tech (Dairy Technology) degree as well as M. Tech. degrees in 14 subjects and PhD degrees in 14 subjects. Dr. Singh later stated that the Institute has filed 85 patents, of which 49 have been granted. The organisation is working to increase milk production per animal while controlling diseases.

On this occasion, Dr. Dheer Singh also brought to everyone's



attention the fact that more than 100 students received international exposure training last year. In his

address, he stated that the Institute has organised dairy fairs in areas such as Kalyani, West Bengal, and Jharkhand, where thousands of cattle rearers and animal lovers have participated.

Dr. R.S. Paroda, speaking as the chief guest, praised the National Dairy Research Institute

for its excellent services in the dairy sector. He praised the Institute's contribution and stated that, thanks to its tireless efforts, it has remained first among all State Agricultural Universities for many years. Speaking about nutritional security as an important challenge for the agriculture and dairy sectors, he believes that while we have made significant progress in the field of food security, much more work remains to be done in the area of nutritional security.

Because of its hard work in agriculture, India has surpassed the global average milk availability, with per capita milk availability exceeding 400 grammes. Food and nutritional security have resulted in a twofold increase in average life span since independence. In his address, he also drew the August gathering's attention to climate change and stated that we must work in this direction while keeping international agreements in mind.

The Deemed University bestowed



honorary degrees on Dr. K.M. Bujarbarua, former Vice Chancellor of Assam Agricultural University in Jorhat, and Dr. D.V.K Prakashrao, Managing Director of Prakash Foods and Feed Pvt. Ltd. in Chennai.

Ms. Priyanka received a gold medal in dairy engineering, Ms. Madhulatha C received a silver medal in agricultural extension education, and Ms. Elizabeth Thomas received a bronze medal in dairy technology as part of the Doctoral Programme 2022-23. Ms. Arpana Raj received the Gold Medal in Animal Reproduction, Mr. Akhil K received the Silver Medal in Animal Nutrition, and Mr. Amritanshu Upadhyay received the Bronze Medal in Animal Genetics and Breeding as part of the Master's Programme for the academic year 2022-2023. Preeti Rani was awarded the Gold Medal among B.Tech (Dairy Technology) students in the 2022-23 academic year, Chetan Soni received the Silver Medal, and Narsing received the Bronze Medal. Merit Certificates were awarded to 14 students in the Doctoral Programme for the academic year 2022-23, as well as 15 students in the Master's Programme. Ten B. Tech (Dairy Technology) students received Merit Certificates that same year.

Dr. Manmohan Singh Chauhan, Vice Chancellor, Govind Ballasabh Pant University of Agriculture and Technology, Pantnagar, Padma Shri Dr. M.L. Madan, Dr. S.L. Goswami, Vice Chancellor, Banda University of Agriculture and Technology, Vice Chancellors of other State Agricultural Universities, respected members of the Board of Management, NDRI, Directors of various Institutes of ICAR, Joint Director (Academic), Joint Director (Research), Joint Director.

Mother Dairy Unveils Ambitious Growth Strategy with Rs 750 Crore Investment Plan



To expand its business in response to rising consumer demand, Mother Dairy will invest Rs 650 crore in two new plants for processing milk, fruits, and vegetables. Mother Dairy, a leading milk supplier in Delhi-NCR, will invest an additional Rs 100 crore to expand the capacity of its existing plants.

"In our endeavour to expand our distribution and reach to our consumers, we have earmarked a capital expenditure (capex) outlay of over Rs 750 crore to enhance our dairy and F&V (fruits and vegetables) processing capacities across key locations," Mother Dairy Fruits and Vegetables Pvt Ltd MD Manish Bandlish said.

Mother Dairy is planning a large dairy plant in Nagpur, Maharashtra, with an investment of approximately Rs 525 crore, he stated. The greenfield facility will have a processing capacity of 600,000 litres of milk per day, which can be increased to one million litres per day. This new plant will serve the markets in the central and southern regions.

"We also plan to commission a new fruit processing plant in Karnataka

with an investment of over Rs 125 crore under our Safal brand," Bandlish told reporters. These two plants are expected to be completed in approximately two years. "In addition to these new greenfield plants, we are also strengthening our capacities in our existing facilities with an outlay of around Rs 100 crore," Bandlish went on to say.

Mother Dairy currently operates nine company-owned dairy processing plants with a total milk processing capacity of over 5 million litres per day. It also performs processing in third-party facilities.

The company owns four plants in the horticulture (fruits and vegetables) segment, while 15 plants produce edible oils. Mother Dairy's turnover in the fiscal year 2022-23 was approximately Rs 14,500 crore.

In terms of expected turnover for this fiscal year, Bandlish stated that "despite a challenging year amid subdued summer season last year and deflation in the edible oil sector, the company is likely to exit 2023-24 with a moderate growth rate of around 7-8 percent in volume terms." Mother Dairy was commissioned in 1974. It is now a fully-owned subsidiary of the National Dairy Development Board.

Mother Dairy was founded as part of 'Operation Flood', the world's largest dairy development programme launched to make India a milk-sufficient nation. Mother Dairy, one of India's leading dairy companies, produces, markets, and sells milk and milk products such as cultured products, ice creams, paneer, and ghee under the 'Mother Dairy' brand.

The company also has a diverse portfolio of products, including edible oils under the 'Dhara' brand

and fresh fruits and vegetables, frozen vegetables and snacks, unpolished pulses, pulps and concentrates, and so on under the 'Safal' brand. In Delhi-NCR, there are hundreds of milk booths and Safal retail outlets. Mother Dairy sells over 35 lakh litres of fresh milk (pouched and token milk) every day in Delhi-NCR.

Kedaara Capital Invests in Dairy Day, Aims to Strengthen Position in South India



Kedaara Capital has announced an investment in Dairy Classic Ice Creams Private Limited ("Dairy Day"), a popular ice cream brand in South India. Kedaara's investment aims to support the company's vision of becoming one of India's most popular ice cream brands. Motilal Oswal Private Equity and other Angel Investors will also be able to fully exit the investment. This partnership represents a watershed moment in Dairy Day's history.

Dairy Day, based in Bengaluru, has a strong presence in Karnataka, Tamil Nadu, Andhra Pradesh, Telangana, and Maharashtra, with over 50,000 retailers. Dairy Day will soon add 1.5 lakh litres per day production capacity to its existing two lakh litres per day capacity, and it has seen revenue growth of 30% compounded annual growth rate (CAGR) over the last decade.

Kedaara will collaborate closely with the Company's promoters, Mr. M.N. Jaganath and Mr. A. Balaraju, as well as the professional management team, during its next phase of growth.

M.N. Jaganath, Managing Director and CEO, and A. Balaraju, Director - Technical, stated, "We are delighted to welcome Kedaara as a valued partner for the next phase of our growth." Given our shared values and aspirations, we are confident that Kedaara will assist us in realising our vision of making Dairy Day one of India's most popular ice cream brands. Their wealth of knowledge and extensive retail and

consumer experience will be invaluable as we accelerate our expansion. We are confident that we will be able to establish world-class production facilities in a variety of locations over the next few years. We are also grateful to Motilal Oswal Private Equity, as our collaboration has been exceptional. Our relationship has established the gold standard for what a true partnership should be."

Sunish Sharma, Founder and Managing Partner, and Anant Gupta, Managing Director of Kedaara Capital, stated that "ice cream is one of the fastest growing categories within the entire food and beverage segment." Dairy Day's commitment to quality and delivering "goodness" has resonated strongly with consumers in its target markets, propelling the brand to a market-leading position. The company is led by a passionate

and highly effective execution-focused team. We are excited to work with Mr. M.N. Jaganath, Mr. A. Balaraju, and the rest of the team to help Dairy Day reach its full potential and strengthen its leadership position."

Mr. Vijay Dhanuka, Managing Director of MO Alternates, stated, "As long-term shareholders and partners of Mr. M.N. Jaganath and his team, we have witnessed Dairy Day's growth journey firsthand. Over the last six years, they have grown rapidly and risen to the top of the South Indian market. With Kedaara's investment, we believe the company will be well-funded and strengthened to build a long-term business."

About Dairy Day

Dairy Day, founded in 2002 by Mr. M.N. Jaganath and Mr. A. Balaraju and team, has a strong presence in Karnataka, Tamil Nadu, Andhra Pradesh, Telangana, and Maharashtra, with approximately 50,000 retailers. Dairy Day provides a full range of products in a variety of flavours and formats (Cups, Candies, Sorbet, Sticks, Cones, Tubs, Cakes, etc.) through the General Trade, Modern Trade, and Online channels. For more information on Dairy Day, please visit www.dairyday.com

About Kedaara

Kedaara is an operationally focused private equity firm that seeks control and minority investment opportunities in India. The company advises and manages over USD 3.7 billion in investments in market-leading businesses across consumer, financial services, healthcare, technology, and industrials. Kedaara's operating partner model includes former CEOs with a track record of building market-leading businesses

and helping them reach their full potential.

Since its inception, Kedaara has remained steadfast in its stated strategy of focusing on investments made through trust-based relationships with best-in-class entrepreneurs and management teams in secularly fast growing end markets. Kedaara combines the strengths of a well-connected, highly experienced local investing and operating team with the experience of their strategic partner, Clayton, Dubilier & Rice, a global private equity firm whose investment strategy combines financial and operational expertise. To learn more about Kedaara, go to <https://kedaara.com>

Sarhad Dairy Hosts Symposium on Camel Milk, Pioneering Therapeutic Benefits and Market Potential



The Kutch District Milk Producers Union Limited, also known as Sarhad Dairy, organised a Camel Milk Symposium, bringing together dairy cooperative leaders,

academicians, researchers, camel rearers, and doctors to discuss camel milk's therapeutic and other benefits, as well as how it can be popularised. The symposium took place in Kutch as part of the United Nations' International Year of Camelids celebrations.

In his remarks, Sarhad Dairy Chairman Valamji Humbal stated that they were fortunate to have taken on the task of organising camel milk producers at Prime Minister Narendra Modi's request in 2012.

"There were no takers for camel milk, and camel milk farmers' conditions were far worse than those of dairy farmers." Producers sold their herds as a result. We were able to organise them thanks to the help of the Sahjeevan and Maldhari organisations. We established the country's first automated camel milk processing plant in 2019. Today, we collect approximately 5,000 litres of camel milk per day from 350 families, which is used to produce a variety of products such as flavoured milk, spray-dried milk powder, and chocolates. "Work to develop

cheese, fermented milk products, coffee mix, and other powders based on camel milk is ongoing," he said.

He proudly stated that the prime

minister last month commissioned Sarhad Dairy's plant, which produces ice cream from camel milk. He thanked the prime minister for his keen interest in the activities of Sarhad Dairy.

Addressing the symposium, Kutch District Collector Amit Arora expressed confidence that, just as Anand is synonymous with cattle milk, Kutch will become known as a hub for camel milk. Citing camel milk's high nutritional value, he urged medical professionals and researchers to promote it as a healthy food supplement. He also advocated for research to improve productivity and earnings for camel milk producers.

Sameer Saxena (Head QA and NPD, GCMMF) recalled that when the camel milk project was first launched, producers received only Rs. 20-25 per litre. However, Sarhad Dairy's efforts have resulted in a procurement price of Rs. 52 per litre, encouraging more camel owners to start milking.

Participants in the symposium paid a visit to the camel milk bulk collection centre. They interacted with camel milk producers to get firsthand accounts of how Sarhad Dairy's involvement improved their lives.

Kutch DDO SK Prajapati, Kamdhenu University Vice Chancellor Dr NH Kelawala, Krantiguru Shyamji Krishna Verma Kachchh University VC Dr Mohan Patel, National Research Centre on Camel Director Dr Artabandhu Sahoo, Microbiologist and researcher from SMC Dairy Science College, Kamdhenu University, Dr Subrato Hati, Unt Uccherak Maldhari Sangathan President Ashabhai Rabari, directors of Sarhad Dairy, CDHO Dr Phoolmali, a team of animal husbandry and dairying department, as well.

Valamji Humbal, Chairman of Sarhad Dairy and GCMMF Vice Chairman, concluded the symposium by thanking everyone who attended.

Pashu Palan Mela: Guru Angad Dev Veterinary University Showcases Livestock Innovations



The Pashu Palan Mela at Guru Angad Dev Veterinary & Animal Sciences University began on Thursday. Gurmeet Singh Khuddian, the state agriculture minister, kicked off the two-day event, which will conclude on Friday.

The university showcased its top-tier breeds of cows, buffaloes, goats, and poultry to livestock farmers. The subject matter experts gave talks on various aspects of livestock, poultry, and fish farming, as well as mechanisms and procedures for overcoming common problems.

Models of integrated livestock farming for increasing farmer profitability and environmental

impact were shown. Farmers were shown live demonstrations of various aspects, as well as the sale of milk testing kits, mastitis diagnosis kits, teat dip practice and acaricide drug application.

Various carp fishes, ornamental fish, azolla, duckweed cultivation, and integration of fish farming with other livestock farming were demonstrated, and farmers expressed a strong interest, particularly in saline water fishery. Milk, meat, and fish were among the value-added products displayed on sale stalls. The mela

featured a bamboo-built poultry shed for backyard poultry rearing.

Khuddian noted that animal husbandry was making a greater contribution to the economy and society. He urged farmers to come forward and seek university assistance for increased productivity and income. He praised Vet Varsity's efforts to reach out to farmers through extension services.

Dr. Inderjeet Singh, vice-chancellor, stated that the mela is being held under the theme "Pashuan Vich Desi Upchaar, Ghat Laagat Vadh Paidavaar" (Homemade therapy for animals with fewer inputs and more

profit). A theme-based stall on ethno-veterinary remedies was also set up at the mela for this purpose. Dr Singh encouraged farmers to pursue livestock professions based on scientific knowledge and technology.

A large number of livestock farmers visited the animal nutrition department's stall to purchase the area-specific mineral mixture, mineral mixture for pigs bypass fat, and uromin lick prepared by the university, which was sold to the farmers at a very low cost. The university-trained self-help groups also display, exhibit, and sell their value-added products. This has elicited positive reactions from aspiring farmers and visiting rural youth.

EFTA-India Trade Pact: Mutual Benefits and Sustainable Growth on the Horizon, Dairy, Agri Out of Ambit

With a historic trade agreement signed between India and the European Free Trade Association (EFTA), all member countries aim to strengthen trade ties and benefits for their citizens and businesses. The Trade and Economic Partnership Agreement (TEPA) is expected to bring \$100 billion in investment from EFTA countries to India over the next 15 years. Switzerland, Iceland, Norway, and Liechtenstein are members of the European Free Trade Association.

Jan Christian Vestre, Norway's Minister for Trade and Industry, emphasised the agreement's mutual benefits, noting that EFTA



countries are on track to create one million new jobs in India. The agreement also calls for significant investment growth in India, which will benefit businesses in EFTA countries.

While Norway intends to eliminate 98-99% of customs duties on Indian exports and lower tariffs on most products in the future, the Minister noted that trade between India and EFTA countries has doubled in the last decade, and the benefits go beyond trade.

Vestre highlighted the inclusion of a chapter on sustainable development in the agreement, stating that India and EFTA countries can now collaborate on renewable energy, batteries, carbon capture and storage, and all of the new technology required to combat climate change. With the Norwegian sovereignty fund and climate fund already invested in India, he emphasised that their mandates cannot be controlled by the country's government or the EFTA grouping.

With both India and Switzerland having dairy and agriculture sensitivities, India had opposed any reduction in customs duty on Swiss cheese imports into India, effectively leaving those sectors out of the scope of the trade

agreement. Switzerland, the seventh largest investor in the United States, is looking to expand its investment footprint by reaching out to India's 1.4 billion-strong market, and has granted 99% access to Indian products under the EFTA.

ICAR-NIVEDI's PPR and Leptospirosis Labs Designated as WOAH Reference, Signifying International Recognition



The World Organisation for Animal Health Biological Standards

Commission has accepted the request of the ICAR-National Institute of Veterinary Epidemiology and Disease Informatics, Bengaluru, to recognise its Peste des Petits Ruminants and Leptospirosis Laboratories as the WOAH Reference Laboratories, marking a watershed moment in Indian veterinary science. This significant recognition places ICAR-NIVEDI at the forefront of international efforts to combat these diseases, demonstrating its commitment to improving animal health and bolstering agricultural economies around the world.

ICAR-NIVEDI operates cutting-edge PPR and animal leptospirosis laboratories and has played a critical role in monitoring, surveillance, diagnostic support, and capacity building throughout India. These two laboratories were ISO17025:2017 accredited by the National Accreditation Board for Testing and Calibration Laboratories in December 2023, and their proficiency testing is regularly approved by international agencies.

Dr. B.R. Gulati, Director of ICAR-NIVEDI, highlighted the accomplishments and broader context of WOAH-designated laboratories in India. He stated,

"With the addition of ICAR-NIVEDI as a Reference Laboratory for PPR and Leptospirosis, India now

proudly hosts four WOAH Reference Laboratories."

These labs, led by Dr. V. Balamurugan, Principal Scientist & Laboratory Director, are internationally recognised for their diagnostic and research excellence in PPR and Leptospirosis. He also expressed gratitude to the ICAR and the Department of Animal Husbandry and Dairying for their invaluable assistance in reaching this milestone.

ICAR-NIVEDI will be one of six WOAH Reference Laboratories worldwide for leptospirosis and one of four for PPR. India is now poised to make significant contributions to the eradication of PPR and the control of Leptospirosis.

The other two, specialising in Rabies at the Veterinary College in Bengaluru and Avian Influenza (bird flu) at the ICAR-National Institute of High-Security Animal Diseases in Bhopal, demonstrate our country's comprehensive capabilities in addressing a variety of critical animal diseases.

This accomplishment not only emphasises ICAR-NIVEDI's role in global animal health, but also paves the way for future successes in veterinary epidemiology and disease control.

Amul Partners with Michigan Milk Producers Association to Introduce Fresh Milk Range in US

Just a month after Prime Minister Narendra Modi asked it to become the world's largest dairy, 'The Taste of India' has taken a significant step forward by introducing fresh milk in



the United States. Amul's fresh milk range is being launched for the first time outside of India.

The Gujarat Co-operative Milk Marketing Federation (GCMMF), India's dairy giant, collaborated with the Michigan Milk Producers Association (MMPA), America's tenth largest dairy cooperative, for this initiative.

The partnership was announced during the MMPA's 108th annual meeting on Thursday in Novi, Michigan. The partnership between GCMMF, the world's largest farmer-owned cooperative, and the 108-year-old MMPA builds on Amul's relationship with Michigan. Dr. Verghese Kurien, the founder and chairman of GCMMF, is credited with ushering in India's White Revolution. He attended Michigan State University.

On February 22, Modi urged Gujarat farmers to make Amul the world's largest dairy during the GCMMF golden jubilee celebrations at Narendra Modi Stadium in Ahmedabad. "We are honoured and delighted to partner with MMPA. Jayen Mehta, managing director of GCMMF, stated that the association will provide Amul milk to both American and Indian consumers, ensuring their nourishment and energy. "It is our great pleasure to bring 'The Taste of India' to the world in alignment with the vision of the PM to make Amul a global dairy brand," said the prime minister.

Amul has launched a line of fresh milk in one-gallon and half-gallon packs with the same brand name and

composition that is popular in India: Amul Gold (6% milk fat), Amul Shakti (4.5%), Amul Taaza (3% milk fat) and Amul Slim n Trim (2% milk fat).

The fresh milk variants will be available in leading Indian grocery stores across the East Coast and Midwest markets of the United States. Amul plans to expand its dairy offerings in the US market, including curd, buttermilk, and paneer, to meet rising demand from the Indian diaspora.

GCMMF plans to launch mass media campaigns, including the popular TV commercial 'Doodh Doodh Piyo Glass Full Doodh' in the USA, in addition to fresh milk variant launches.

Amul will use MMPA's superior technology to launch its fresh milk products in the United States. MMPA, founded in 1916, is a member-owned and operated milk marketing cooperative renowned for producing high-quality, award-winning dairy products. MMPA serves members from Michigan, Ohio, Indiana, and Wisconsin.

It operates four certified processing facilities: a cheese plant in Indiana, a dairy product plant in Ohio, and two dairy ingredient plants in Michigan. Every year, the Amul brand, which has a turnover of more than US\$10 billion, handles over 11 billion litres of milk. It exports branded milk and milk products to over 50 countries, including the United States.

Everest Instruments Marks 25 Years in Dairy Industry with Launch of Cutting-Edge Milk Analysis Tools

Everest Instruments, a pioneer in



innovative dairy and food testing solutions, has announced the release of three revolutionary products. Among the products unveiled is India's first FTIR-based milk analyzer. The YAMA milk analyzer is India's first Fourier Transform Infrared Spectroscopy analyzer, providing fast and accurate raw milk composition analysis. This analyser, which can determine the fat, SNF, and protein content of milk and detect common adulterants in just 30 seconds, is poised to revolutionise village-level milk collection and bulk milk chilling centres due to its affordability and efficiency. The product will also pave the way for import substations, as most current instruments are imported.

The second innovative product is the Everest GC4500 Gas Chromatography for Milk Fat Fatty Acids and Triglycerides, which allows for detailed profiling of fatty acids and triglycerides, which is critical for understanding the quality of milk, milk products and ghee. The GC4500, with its emphasis on nutritional value and authenticity, is poised to raise the bar for dairy analysis.

Currently, separate Gas Chromatography machines are

used for GC analysis of milk fat to determine fatty acids and triglycerides. However, Everest Instruments has created a machine that can analyse both fatty acids and triglycerides. This will reduce the cost of machines, accessories, installation, and spares. Meenesh Shah, Chairman of the National Dairy Development Board (NDDB), unveiled the products at the recently held 50th Dairy Industry Conference in Hyderabad.

Everest Instruments' Chairman and Managing Director, Ajit Patel, stated, "We firmly believe that these innovations have the potential to revolutionise the dairy industry, not only in India but also globally." These newly launched products will provide global benefits, and we look forward to seeing how these advancements improve milk quality and food safety for consumers around the world. The introduction of these products also marks a significant milestone for us as we celebrate 25 years in the dairy industry."

Parimal Patel, Everest Instruments' Joint Managing Director, stated, "Our newly introduced products will provide significant benefits to the Indian dairy industry and dairy farmers." We are grateful to our

customers for their unwavering trust in us over the past 25 years. We are committed to continuing to innovate and provide the best products for the dairy industry."

The product, which includes a fully automated somatic cell counter as well as fluorescence optics and image analysis software, determines the precise quality of raw milk, ensuring the highest dairy production standards and making it a preferred option in research, dairy farms, the dairy industry, and veterinary institutions.

State Cooperative Dairy Federation Calls for Inclusion of Milk in Mid-Day Meal and Aganwadi Schemes Amid Surplus



The State Cooperative Dairy Federation has urged the state government to include milk in its mid-day meal and aganwadi schemes, citing daily surplus milk of more than 30%. The federation's assistant general manager, Aseem Nigam, stated, "Milk supplies are plentiful. We are collecting about 30% more milk every day. We are selling approximately 10 lakh litres per day, compared to the state's average of around 7 lakh litres.

This gap has resulted in rising stocks. So, we've urged the government to include milk in the midday meal programme." The federation represents more than 2.5 lakh farmers from 10,000 villages in Madhya Pradesh. "We have partnered with Delhi Milk Scheme to supply some milk. Previously, we supplied Kolhapur dairy, but they have stopped buying. We operate on very thin margins, and such flush situations place additional strain on the federation," Nigam stated.

Surplus milk from the federation has resulted in a stockpile of approximately 4,000 tonnes of butter and powder in the state. Milk collection at Indore Cooperative Dugdh Sangh has reached approximately 4 lakh litres, and butter and powder stocks have exceeded 1,000 tonnes.

The federation anticipates an increase in demand for packaged milk during the summer months and intends to use its butter and powder stocks.

WOAH Leads Quadripartite Secretariat, Prioritizing One Health Initiatives Globally

The World Organisation for Animal Health (WOAH) is taking on the role of chairing the Quadripartite rotating Secretariat, emphasizing its dedication to advancing animal health efforts through collaborative One Health initiatives. In collaboration with the World Health Organization (WHO), the Food and Agriculture Organization of the United Nations (FAO), and the United Nations Environment Programme (UNEP), WOAH aims to



address the interconnected issues of animal health, human health, and the environment. The Quadripartite Collaboration on One Health was established to tackle emerging diseases, zoonotic infections, foodborne illnesses, and environmental challenges by leveraging joint expertise.

During the Second Quadripartite Executive Annual Meeting, WOAH officially assumed its role as the forthcoming chair of the Quadripartite Secretariat. The organization is committed to combatting zoonotic animal diseases like rabies and vector-borne diseases through a holistic approach. WOAH's strategic priorities include implementing the One Health Joint Plan of Actions (OH JPA) at a national level, developing a monitoring and evaluation framework for the OH JPA, establishing a One Health Learning Coordination task force, advocating for One Health principles in global political discussions, and taking action against zoonotic diseases like rabies.

WOAH's focus on combating rabies, a preventable yet deadly disease affecting vulnerable communities globally, underscores its commitment to impactful initiatives at national, regional, and global levels. The organization aims to drive initiatives that promote the

implementation of the OH JPA, establish monitoring and evaluation mechanisms, enhance One Health collaborative capacity, integrate One Health into the global political agenda, and take action against zoonotic diseases like rabies.

By prioritizing the rollout of the OH JPA in selected countries, WOAH aims to emphasize the critical role of the animal health sector in safeguarding public health. The development of a monitoring and evaluation framework will facilitate reporting on OH JPA progress and advocacy efforts. Additionally, the establishment of a One Health Learning Coordination task force will focus on building capacity and driving innovation in One Health efforts.

WOAH and its Quadripartite partners will work to embed One Health principles in global political discussions and agreements, advocating for comprehensive One Health governance mechanisms. Efforts will include engaging in political forums like the G20 and G7 to raise awareness and mobilize support for intersectoral collaboration in addressing health emergencies effectively.

The organization will promote efforts to control and eliminate endemic zoonoses, neglected tropical diseases, and vector-borne diseases, with a particular focus on ending human deaths from dog-

mediated rabies. Leveraging the strategic plan Zero by 30, WOAH will operationalize the One Health approach in countries with a high rabies burden by promoting national control plans, surveillance in wildlife, access to the WOAH vaccine bank for dog vaccination, and fostering stakeholder and community communication.

As WOAH assumes the chair of the Quadripartite Secretariat, it reiterates its commitment to advancing One Health principles and operational implementation for a safer and healthier future for all.

Virbac Secures Leadership Position in Japanese Farm Animal Vaccines Market with Sasaeah Acquisition



Virbac announces the signing of a definitive agreement with ORIX Corporation to acquire its animal health subsidiary Sasaeah for approximately €280 million.

Sasaeah was formed by the merger of two legacy animal health providers (Fujita Pharmaceutical Co. Ltd. and Kyoto Biken Laboratories Inc.) under the stewardship of ORIX Corporation. It generates approximately €75 million in annual revenue, with vaccines accounting for 50%. Sasaeah, which has a strong presence in Japan, develops,

manufactures, and markets a wide range of veterinary products for farm and companion animals.

Upon completion, this strategic acquisition will give Virbac a leadership position in Japan's farm animal vaccines market, particularly in the cattle segment, as well as a large portfolio of pharmaceutical products for all major species. Virbac will benefit from Sasaeah's local manufacturing sites in Japan and Vietnam, as well as its R&D capabilities and over 500 enthusiastic and skilled employees. Virbac will be propelled as a leading animal health player in Japan, with the potential to expand these capabilities across Asia.

Sébastien Huron, CEO of the Virbac group, stated that Japan is a key market in the global animal health industry. This acquisition is completely consistent with our company's vision for 2030, which emphasises geographic expansion in major markets, the growth of our vaccines segment, and the reinforcement of our key species. We are delighted to welcome the talented Sasaeah team to the global Virbac family. We look forward to working together to shape Japan's animal health future.

Seiichi Miyake, managing executive officer of ORIX Corporation, continued, "After investing in Kyoto Biken Laboratories and Fujita Pharmaceutical, ORIX successfully integrated the capabilities of both companies to establish Sasaeah as one of Japan's leading animal health groups. ORIX anticipates further improvements in Sasaeah's product quality and supply capability, which will benefit from Virbac's world-class R&D, manufacturing, and quality competencies. ORIX believes that the combination of Sasaeah and Virbac will help advance veterinary medicine.

The transaction is not subject to regulatory approval and is expected to close by the beginning of April 2024.

Swiss Biotech Startup Cultivated Biosciences Raises €4.6 Million for Dairy-Free Cream Development



Cultivated Biosciences, a pioneering Swiss biotech food startup, has announced the successful completion of its seed funding round, which raised €4.6 million to fuel its ambitious growth plans. This financial injection will help to accelerate the development of their yeast cream in collaboration with the food industry, as well as the market launch in 2025.

The funding round brought together a strategic group of investors, demonstrating widespread support for Cultivated Biosciences' mission to bridge the gap between dairy alternatives and traditional dairy with its fermentation-derived creamy ingredient. Navus Ventures, a Dutch venture capital firm focused on promoting sustainable food and energy systems, led the investment round. Founderful (previously known as Wingman Ventures), a Swiss tech venture capital firm and

an early investor in Cultivated Biosciences, demonstrated their continued confidence in the company by making a significant contribution to this round, along with other early investors such as HackCapital and Planted founder Lukas Böni. The round also attracted new investors, including US-based Joyful VC, Mandi Ventures, and Zürcher Kantonalbank, who were all impressed by the company's significant progress since its \$1.5 million pre-seed round in September 2022.

Recent years have seen significant growth and innovation in the dairy-free sector. Still, the products fail to persuade consumers because the various attempts to combine plant-based proteins with vegetable oils and additives such as emulsifiers and texturizers do not accurately replicate the dairy experience. They also fall short of health and sustainability standards because they contain additives and exotic oils. With its yeast-derived cream, Cultivated Biosciences provides a sustainable and healthy solution that mimics the creaminess, functionality, and colour of traditional dairy cream. This ingredient improves the texture and stability of dairy-free products, replaces additives, and has no discernible taste.

Yeast cream, like dairy cream, is a natural emulsion made from a specific type of oleaginous yeast. Cultivated Biosciences has created novel and proprietary technologies, including the yeast cream, which is patented. The production process uses yeast biomass fermentation, which differs from precision fermentation in that it is non-GMO, cheaper, and more easily scalable. It does not intend to replicate dairy cream at the molecular level. Instead, it attains functional and sensory parity. The yeast cream

contains fats, proteins, and fibres derived from yeast and has a microstructure of yeast lipid droplets that resembles milk fat droplets. This ingredient is intended for use in finished consumer products, and Cultivated Biosciences intends to supply it to the food industry and gastronomy sectors via a B2B model. The company has already validated its application in products such as coffee creamers, milk, and ice cream with its customers and is looking into new possibilities.

The 15-person team is now focused on increasing production and working closely with the food industry and gastronomy to bring their ingredient to consumer markets by 2025.

About Cultivated Biosciences

Founded in 2021 in Zurich, Switzerland, Cultivated Biosciences is introducing patented yeast cream made with fermentation to make animal-free dairy a healthier option. Cultivated Biosciences plans to introduce its cream to the US and European markets in 2025 and 2026, respectively, pending regulatory approval. The dairy industry contributes to 4% of global greenhouse gas emissions, and the market for dairy alternatives is growing globally. Despite appeal to health and environmental-conscious consumers, texture and clean label requirements remain barriers.

IDFA Relaunches LAC Seal: Helping Consumers Identify Yogurt with Live and Active Cultures

The International Dairy Foods Association (IDFA) has relaunched



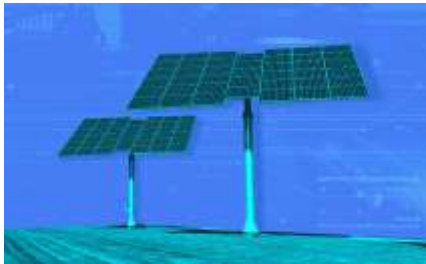
its Live and Active Cultures (LAC) Seal to help consumers identify yogurt and other cultured dairy products containing significant levels of live and active yogurt cultures. The LAC Seal is a voluntary certification available to manufacturers whose products contain at least 100 million cultures per gram, exceeding FDA requirements. The seal can also be used for frozen yogurt with at least 10 million cultures per gram.

IDFA aims to make it easier for manufacturers to obtain the LAC Seal for their products, emphasizing the health and wellness benefits of live and active cultures. A survey by the International Food Information Council (IFIC) found that consumers view products with live and active cultures as better for them, with gut health and nutrition being top priorities for those purchasing yogurt and similar dairy products. Live and active cultures, specifically *Lactobacillus bulgaricus* and *Streptococcus thermophilus*, are beneficial bacteria that aid in the fermentation process of converting milk into yogurt. These cultures not only contribute to the taste and texture of yogurt but also offer health benefits, such as aiding in lactose digestion for individuals with lactose intolerance.

IDFA recognizes the growing demand for health-focused food options and the importance of

communicating the presence of live and active cultures to consumers. By updating the policies and guidelines around the LAC Seal and expanding its availability to the yogurt and cultured dairy products industry, IDFA aims to provide a recognizable symbol that signifies the presence of valuable live and active cultures in dairy products. This initiative aligns with consumer preferences for products that promote gut health, overall wellness, and nutrition, highlighting the significance of live and active cultures in meeting these demands.

Harnessing the Sun: Soltropy's IoT-Connected Solar Thermal Panels Bring Efficiency to Dairy Farms



Soltropy, a Glasgow-based solar thermal technology specialist, has developed a smart monitoring method for its water heating system through the Milk Round accelerator hosted by CENSIS, Scotland's innovation centre for sensing, imaging, and IoT technologies. The initiative is part of the Digital Dairy Chain, a multi-partner project led by Scotland's Rural College (SRUC) which aims to transform the dairy processing supply chain in south and west Scotland, and Cumbria. The solar-powered water heating system uses energy from the sun and a series of solar thermal panels to provide

plentiful hot water on demand, potentially saving farmers up to £6,000 per year in energy bills.

Soltropy's heat-generating solar thermal panels are three times more efficient than photovoltaic panels, which convert sunlight to electricity. They require less maintenance and do not require antifreeze, a major obstacle for widespread use of solar thermal systems in the UK. The latest generation of the heating technology features IoT-connected solar tubes to enable remote monitoring. A typical farm setup is around ten times the size of an average domestic system, and data collected will help farmers monitor the system's performance. Automated alerts will point towards errors and necessary repairs, rather than relying on a physical inspection of the panels and solar tubes to ensure optimum performance.

The thermal technology can also be applied to other businesses and sectors with large requirements for hot water, such as hospitality and tourism destinations. Stuart Speake, managing director of Soltropy, said that the introduction of IoT and sensors is a big development in their sustainable solar thermal technology and will make it much easier for users to keep on top of system maintenance and performance. He hopes to see the new connected version installed across sites all over the UK, helping the sector's transition to net zero.

Following tests of the new system by Heriot-Watt University researchers, Soltropy plans to complete an on-farm trial. The product is expected to be available on the market later this year.

World Veterinary Day 2024:

Honoring Veterinarians' Contributions to Global Health and Well-being

WORLD
VETERINARY
DAY 2024



Veterinarians
are essential health workers

27th April 2024

According to the announcement for World Veterinary Day 2024, protecting and improving the health of people and their communities is as important as helping animals.

The World Veterinary Association (WVA) and Health for Animals have announced that this year's theme will be "Veterinarians are essential health workers." The 2024 World Veterinary Day will be held on April 27 and will be an opportunity to recognise veterinarians' contributions to the health of animals, humans, and the environment.

"Veterinarians' competencies must be regarded as an essential and integral part of health at large," according to this year's announcement. "The application of veterinary science contributes not only to animal health and well-being but also to human's physical, mental and social wellbeing."

The WVA established World Veterinary Day in 2000 as an annual celebration of the veterinary profession, which is held on the last Saturday of April.

Since 2019, the World Veterinary Day Award has been co-sponsored

by the WVA and Health for Animals, the global animal health industry association.

The World Veterinary Day Award winner will receive \$5,000 for effectively promoting the annual theme. Local campaigns, public education seminars, media campaigns, new research, and other initiatives may fall under this heading.

The AVMA won the award in 2021 for the theme "Veterinarian response to the COVID-19 crisis" after creating an online COVID-19 resource centre for veterinarians worldwide.

Learn more about World Veterinary Day 2024 and the World Veterinary Day Award at the WVA website.

FAO Stresses Role of Agrifood Systems in Combating Climate Change and Biodiversity Loss

The Deputy Director-General of the Food and Agriculture Organization of the United Nations (FAO), Maria Helena Semedo, emphasized the importance of transforming agrifood systems to address the triple planetary crisis of climate change, biodiversity loss, and pollution. This transformation requires cooperation between the public and private sectors, empowering stakeholders, adopting holistic approaches, and optimizing multilateral environmental agreements. Semedo highlighted ecosystem restoration as a key focus, recognizing initiatives that reverse ecosystem degradation through innovative practices.

The role of the private sector was underscored in discussions at the United Nations Environment Assembly (UNEA), where Semedo

emphasized collaboration with businesses to accelerate innovation and address planetary challenges effectively. FAO offers support to private sector actors in integrating sustainable agrifood practices, climate action, and social responsibility principles into their business strategies. The exchange with the private sector highlighted the importance of data quality and geospatial information for promoting healthy soils and reducing food waste.

Semedo also participated in discussions on land degradation, climate change, and biodiversity, emphasizing the interconnected nature of these challenges and their impact on vulnerable communities. She highlighted the potential of agrifood systems in addressing these challenges through the climate-biodiversity-land-food-water nexus. Semedo praised initiatives like Africa's Great Green Wall for their contributions to land restoration, climate action, biodiversity conservation, and food security.

The Deputy Director-General also engaged in meetings focusing on inter-sectoral collaboration, particularly through the One Health approach, which integrates human, animal, and environmental health. Discussions emphasized the importance of bridging mandates across organizations to address complex challenges effectively. The commitment to sustaining One Health implementation at all levels was reaffirmed, with a focus on resource mobilization and political support.

Semedo highlighted the importance of environmental multilateralism in addressing global challenges, emphasizing the need to empower stakeholders, invest in actions that address environmental

issues while improving food security and equity, strengthen dialogue between state and non-state actors, ensure policy coherence, and support financially-backed environmental agreements. FAO plays a key role in leading multilateral instruments related to the environment, pollution, plant health, and food safety.

In meetings with the Presidencies of upcoming UN conferences on desertification, biodiversity, and climate, Semedo emphasized FAO's support for bringing food systems transformation as a common element across these meetings. This highlights the organization's commitment to promoting sustainable practices and addressing environmental challenges through collective action.

Overall, Semedo's engagements underscore the importance of collaboration, innovation, and holistic approaches in transforming agrifood systems to address the pressing challenges of climate change, biodiversity loss, and pollution. FAO's efforts focus on empowering stakeholders, engaging with the private sector, promoting ecosystem restoration, and advancing environmental multilateralism to achieve a more sustainable and resilient future.

ANDFOODS Raises \$2.7 Million in Seed Funding for Plant-Based Dairy Innovation

ANDFOODS, a New Zealand startup spun off by Massey University and the Riddet Institute, has raised \$2.7 million in seed funding for its technology to produce legume-based dairy alternatives.



The startup has created plant-based creams and milk powders that use fermentation to remove flavour off-notes while maintaining excellent nutritional and functional properties. The creams are said to have "eclipsed all other plant-based creams" in testing, with an overrun (ability to absorb air and maintain shape) comparable to the UHT dairy creams used in commercial kitchens and food manufacturers. The products are also free of allergens.

Icehouse Ventures led the funding round, and the funds will be used to commercialise dairy alternatives and accelerate research and development. ANDFOODS was founded less than a year ago, but it has already begun developing products with some of the world's largest food companies. Leon Clement (former Synlait CEO and ex-Fonterra MD) was recently named the startup's chairman.

Over the last year, New Zealand has seen an increase in dairy alternative innovation, with Haven recently launching what they claim is the world's first 100% oat-based toddler drink and Miruku developing novel dairy proteins and fats using molecular farming and oilseed crops.

EatKinda introduced its innovative cauliflower-based ice cream to over 90 Woolworths stores in New Zealand in December, and Daisy Lab announced the following month that it had increased the production of animal-identical whey protein through fermentation. Furthermore, Free Flow Manufacturing announced last year that it would open what was described as New Zealand's first

dedicated plant-based milk manufacturing facility.

"With the amount of R&D that's been invested, ANDFOODS is in an incredible position as we go into the market with a product that has years of science behind it," said Alex Devereux, chief executive officer of ANDFOODS. "As well as being one of the few allergen-free dairy alternatives, our process uses fermentation to help give ANDFOODS greater control of flavour profile and other important properties."

LSU Researcher Develops New Vaccine to Combat Bovine Respiratory Disease, Saving Millions of Calves Annually



A researcher at Louisiana State University (LSU) has developed a new vaccine against bovine respiratory disease (BRD) and related illnesses, which kill approximately 8 million calves each year and cost the US cattle industry more than \$1 billion. Most cattle producers now protect their herds with a commercially available modified live BRD vaccine containing several live viruses (a cocktail). However, the diseases kill more than one out of every five calves.

"Our vaccine is safer for calves and

far more effective than the vaccine cocktail," stated Shafiqul Chowdhury, a veterinary medicine professor. To prevent bovine respiratory disease, Chowdhury genetically modified bovine herpes virus type 1 (BHV-1) to contain protective proteins from other bovine respiratory viruses, including bovine viral diarrhoea virus (BVDV) types 1 and 2, and bovine respiratory syncytial virus (BRSV).

LSU Vice President of Research and Economic Development Robert Twilley stated that research that results in new tools such as Chowdhury's vaccine is a pillar of LSU's Scholarship First Agenda, which advances agriculture, biomedicine, coastal protection, defence, and energy.

"Global population growth and environmental changes mean we must increase the amount of food we produce," Twilley said in a statement. "This LSU-developed vaccine will help protect the world's food supply and improve outcomes for cattle producers in Louisiana and nationwide." According to Chowdhury, calf mortality in vaccinated animals is just one example of where the current vaccine cocktail falls short.

The United States does not require marker or DIVA (differentiating infected from vaccinated animals) vaccines that can distinguish between virulent field viruses. The current vaccine cocktail is not a DIVA or marker vaccine. Vaccine viruses can therefore circulate and persist in the cattle population. They may evolve over time and regain their ability to cause disease.

Cattle producers have reported spontaneous abortions and bovine respiratory disease in vaccinated animals. Variants of the live vaccine viruses are thought to be the culprit. The vaccine cocktail lacks markers, making it impossible to distinguish

between vaccine and disease-causing viruses.

Chowdhury's vaccine prevents the vaccine virus from spreading and circulating in the cattle population, he claims. Chowdhury's vaccine has additional advantages:

It is cost-effective. It employs a single virus, genetically engineered BHV-1, which grows well in cell culture.

Individual viruses are grown separately before being combined to form the commercial cocktail vaccine. Each vaccine batch necessitates rigorous quality control. The virus, BRSV, grows poorly in cell culture and produces a low yield.

It does not cause abortion, which is a possible outcome for cows that reach adulthood after receiving the commercial vaccine cocktail.

Chowdhury has applied for a vaccine patent with the help of the LSU Office of Innovation and Technology Commercialization. Chowdhury has already received several US and international patents. He has several other patents pending. "Dr.

Chowdhury's vaccines could be a game changer for the cattle industry, and we couldn't be more excited to support this kind of groundbreaking research," Twilley said in a press release.

USDA Confirms Highly Pathogenic Avian Influenza in Dairy Cattle, Investigations Underway

Highly Pathogenic Avian Influenza (HPAI) has been confirmed in dairy cattle in Texas, Kansas, Idaho, and Michigan, with pending positive cases in New Mexico. The Texas Animal Health Commission (TAHC) and the United States Department of



Agriculture (USDA) are working closely to evaluate symptoms among older dairy cows in Texas, Kansas, and New Mexico, including decreased lactation, low appetite, and other clinical signs. Diagnostic samples of unpasteurized milk from affected cattle collected from two dairy farms in Kansas and one in Texas, as well as an oropharyngeal swab from another dairy in Texas, were confirmed HPAI positive on March 25, 2024.

Symptoms include a consistent milk drop, not eating, diarrhea, tacky or dry feces, pneumonia, mastitis, fevers, and subcutaneous air. Most affected cattle have recovered with supportive care for presenting symptoms. The spread of the illness appears inconsistent, posing diagnostic challenges, and the complexity seems to pose transmission challenges keeping it from affecting other cattle populations. Federal and state agencies are conducting additional testing and viral genome sequencing to better understand the emerging situation.

The Texas Agribusiness Association (TAHC) is working to develop a comprehensive epidemiologic investigation into the H5N1 virus, which has been affecting cattle in Texas. Twenty Texas dairies have self-identified as having affected cattle and are adding their information to the data set. The USDA has no concern about the safety of the commercial milk supply at this

stage, nor does it pose an increased risk to consumer health.

Pasteurization has proven to inactivate bacteria and viruses, like influenza, in milk, and pasteurization is required for any milk sold in stores.

The virus has also been reported in newborn goats in Stevens County, Minnesota, and two commercial poultry flocks in South Dakota. The Idaho State Department of Agriculture (ISDA) has identified HPAI in a dairy cattle operation, with the primary concern being on-farm production losses. The primary concern is the virus's potential transmission from cow-to-cow, as well as previous reports indicating cattle were acquiring the virus from infected birds.

USDA's National Veterinary Services Laboratories confirmed the presence of HPAI in a Michigan dairy herd that had recently received cows from Texas. Initial testing has not found changes to the virus that would make it more transmissible to humans, but the current risk to the public remains low. Producers, feeders, and livestock markets are justifiably concerned about the spread of the virus between cattle.

The primary risk factor for transmission of HPAI is not the bovine on the hoof, but migratory birds as more likely culprits. Good biosecurity is always a good idea as the TAHC continues to focus on the big picture.

Editorial Calendar 2024

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

Subscription Rates

Time Period

1 Year	INR 2400	USD 250
3 Year	INR 6500	USD 650
5 Year	INR 10000	USD 1000

*18% GST Extra

Contact Name : _____

Company Name : _____

Postal Address : _____

City : _____ State : _____ Mob. No. _____

Postal Code : _____ Country : _____

For more detail, contact:



Pixie Expomedia Pvt. Ltd.
 C/o OmAng Hotel, Namaste Chowk, Near Janta Petrol Pump, KARNAL - 132001 (Haryana) INDIA

We wish to subscribe the following

Poultry Planner

1 Year 3 Year 5 Year
 from _____ to _____

Dairy Planner

1 Year 3 Year 5 Year
 from _____ to _____

Poultry Times of India

1 Year 3 Year 5 Year
 from _____ to _____

Grand Total: _____

Payment Details:

Send DD or Cheque in favour of Pixie Expomedia Pvt. Ltd. payable at Karnal
 Address: C/o OmAng Hotel, Namaste Chowk, Near Janta Petrol Pump, KARNAL - 132001 (Haryana) INDIA or Transfer money to Canara Bank
 Bank address: Sector 12; U Estate Karnal
 Account Type: Current
 Account Name: Pixie Expomedia Pvt. Ltd.
 Account Number: 120000991579
 IFSC Code: CNRB0003264 | Swift Code: CNRBINBBFD | PAN No. AAMCP6787A

Date: _____ Company's Stamp & Signature

By signing this form I acknowledge that I have read and agree to the quoted cost above

*5% GST Extra **Advertisement Tariffs**

Advertisement Type	Single Issue (cost @)	Advertisement Type	Single Issue (cost @)
Front Page	30000 <input type="checkbox"/>	Back Title	20000 <input type="checkbox"/>
Front Gate Fold	25000 <input type="checkbox"/>	Back Gate Fold	19000 <input type="checkbox"/>
Front Title Inside	20000 <input type="checkbox"/>	Back Title Inside	18000 <input type="checkbox"/>
Front Title Opening	16000 <input type="checkbox"/>	Back Title Opening	16000 <input type="checkbox"/>
Full Page	8000 <input type="checkbox"/>	Center Spread	18000 <input type="checkbox"/>

IRIS
MONEY
doesn't talk, it swears

Happy cow Plus milk



4 Benefits

1. Money Plus Improves milk yield
2. Improves the fat percentage
3. Improves reproductive performance
4. Helps in better growth

2 Goals

1. More Milk
2. More Profit !!!



FOR FURTHER INFORMATION
please contact +91 80 48663242 or admin@irides.in
or visit our website www.irides.in

INTERNATIONAL EXHIBITION ON DAIRY SECTOR



2nd Edition
THE Dairy EXPO

09-11 Aug. 2024

**India Expo Center & Mart,
Greater Noida, Delhi - NCR,
India**

Event Highlights



200+
Exhibitors / Sponsors



20+
Countries



200+
VIP Attendees



Extensive Media Coverage



8000+
Visitors

Event by



Concurrent Events



Supported by



Media Partner



+91-741-999-3001 | 999-170-8200 | info@thedairyexpo.in | www.thedairyexpo.in