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# DAIRY PLANNER

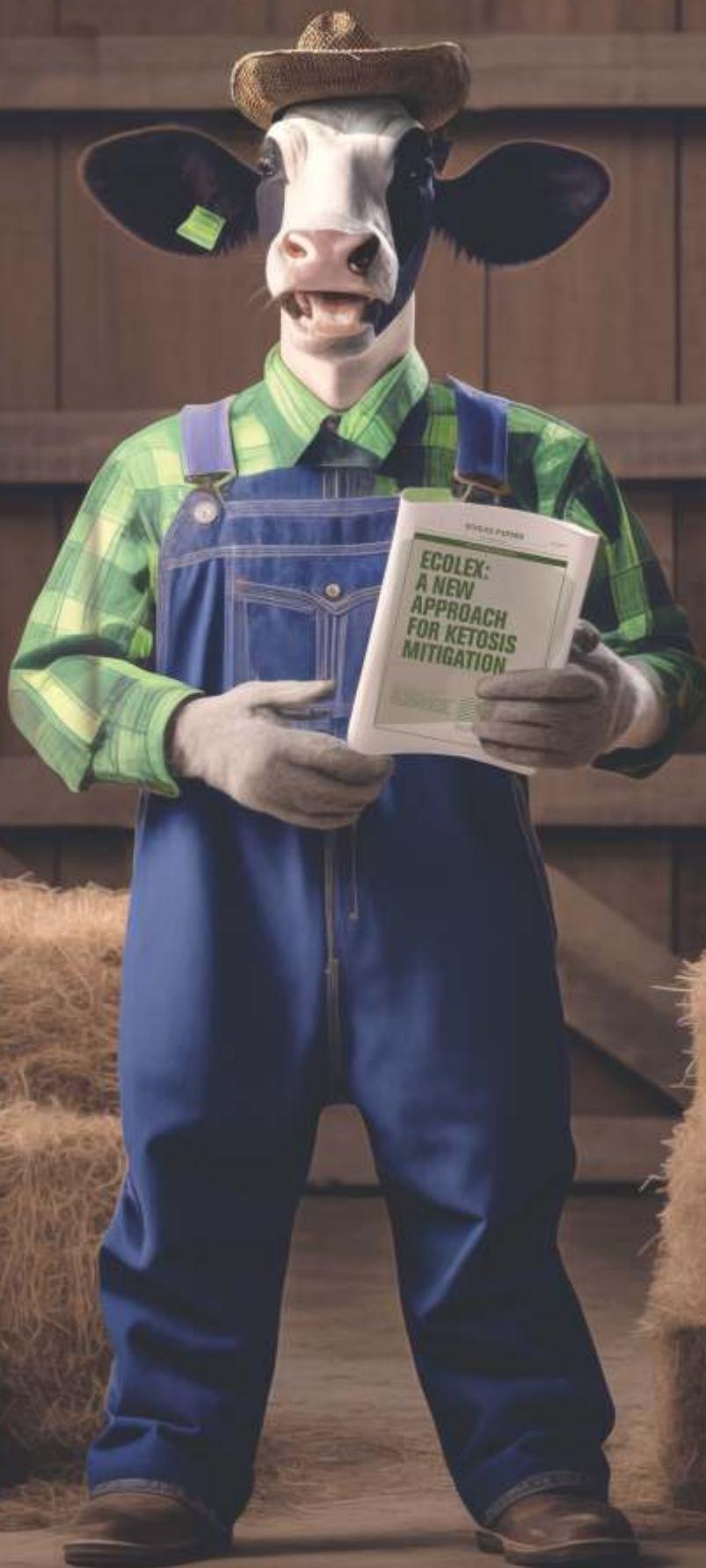
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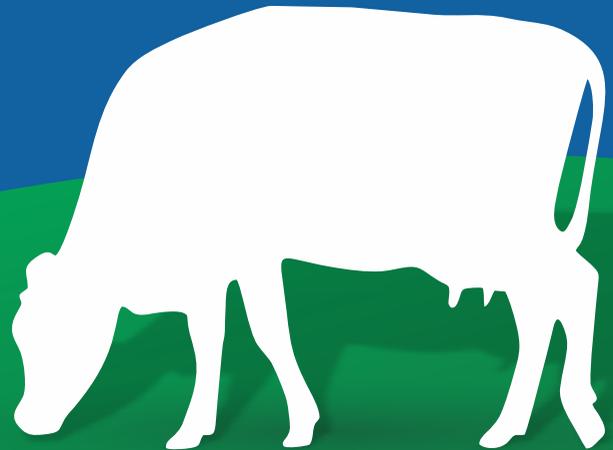
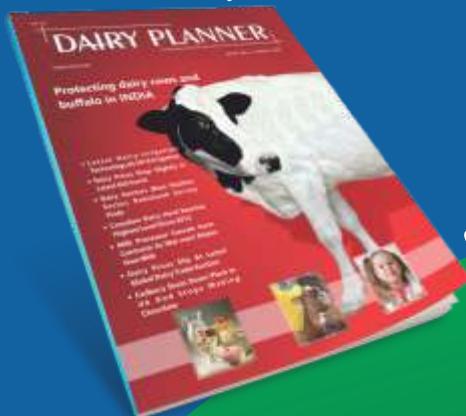


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# HEALTH

## Benefits of A2 Milk



### Strong Teeth

Milk is the best source for calcium and that's exactly what your teeth need. In addition, milk helps prevent cavities and tooth decay.



### Healthy Bones

It's true that kids need to drink milk to increase bone health, in order to improve proper growth.



### Weight Loss

Studies have proven that women who drink milk daily are more likely to lose weight than women who do not drink milk.



### Reduce Stress

Sit down and drink a warm glass of milk. This helps to relieve muscle tension and soothe your nerves.



### Energy Booster

When you're struggling to get through the day and you need a little pick-me-up, reach for an ice cold glass of milk. You will feel revitalized in no time.



# From the Pen of Chief Editor



## Managing the Monsoon – A Call for Preparedness and Sustainability

As the monsoon clouds gather and the first drops hit the earth, we welcome the season of renewal and abundance. The monsoon is not merely a change in weather—it is the lifeline of our agriculture, water supply, and ecosystem. Yet, with its blessings come significant challenges. Monsoon management, therefore, is not just a seasonal concern but a crucial aspect of long-term planning and sustainability.

In recent years, erratic rainfall patterns and extreme weather events have become more common due to climate change. Cities often find themselves either drowning under excessive rainfall or struggling through dry spells in what should be a wet season. Rural areas, too, face soil erosion, crop damage, and disrupted livelihoods. The need for effective monsoon management has never been more urgent.

Urban flooding is a recurring problem, exacerbated by poor drainage systems, unplanned construction, and inadequate waste management. We need proactive infrastructure planning—restoring natural water channels, building rainwater harvesting systems, and improving stormwater drainage. Smart city planning must integrate climate resilience into its core design.

On the agricultural front, farmers must be equipped with timely weather updates, drought-resistant seeds, and sustainable irrigation practices. Government initiatives and technological interventions—like satellite-based weather forecasting, mobile apps, and AI-driven advisories—can play a vital role in empowering our farming communities.

Equally important is water conservation. The monsoon offers a critical opportunity to recharge groundwater and fill reservoirs. Community-driven efforts such as building check dams, desilting ponds, and protecting wetlands can make a significant difference.

Monsoon management is not the responsibility of governments alone. It calls for public awareness, corporate participation, and individual accountability. From avoiding littering to supporting local water conservation initiatives, each step counts.

Let us welcome the rains not just with joy, but with preparedness and responsibility. A well-managed monsoon season can ensure safety, food security, and ecological balance for millions. It's time we see the monsoon not just as a season, but as a shared mission.

*Vishal*

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# Beta-Casein Variants in Milk: A1 and A2 Compared

**Vidushi Sharma, Dibyendu Chakraborty\*, Komal Deep Kour, Aakriti Sudan, Soshthi Talwar, Deesha Gupta, Palak Sharma Vikas Mahajan and Nishant Kumar**

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## Abstract

*Milk is a wholesome food as it provides a wide range of essential nutrients in a really digestible form. India is the leading producer of milk in the world.  $\beta$ -casein is an important part of the caseins, which makes up about 37% of the total caseins. Within  $\beta$ -casein, there are a number of variants which are genetically determined. However, there are thirteen genetic variants of  $\beta$ -casein found in cow's milk. A1 and A2 are the most common variants, which are called A1  $\beta$ -casein (A1-milk) and A2  $\beta$ -casein (A2-milk). The only difference between A1- and A2-milk is a difference in the 67th amino acid in the chain. At this position, A2-milk has a proline amino acid, while A1-milk has histidine amino acid. Several studies have reported that cow's milk with a dominant or singular A2-milk may be healthier than A1-milk. These studies are based on digestion of A1- milk which lead to release  $\beta$ -casomorphin-7 (BCM-7). Subsequently resulting to adverse effects like Type-1-diabetes, heart disease, autism, gastrointestinal discomfort, sudden death of infant syndrome and other disease in the consumer. A1 milk is commonly produced from Western dairy breeds of cows namely Holstein Friesian, Jersey. A2 milk producing breeds are Sahiwal, Gir, Tharparkar and Red Sindhi. For this reason, there is a growing global interest in A2-milk. In conclusion, the effects of A1-milk compared to A2-milk on human health show mixed results. On the basis of the available results, we cannot conclusively assess the health effects of A1-milk and A2-milk. Therefore, further investigations are needed.*

## Introduction

Milk is defined as the normal mammary secretion obtained from a healthy milch animal through complete milking, excluding colostrum, and without any additions. It is a fresh, clean lacteal secretion, not from animals within 15 days before or 5 days after calving. Milk is often considered as a well-rounded diet, encompassing a wide range of essential nutrients, although it is deficient in iron content. It provides the vital micronutrients crucial for both human and neonatal animal growth and overall health. India is the largest milk producer and maintaining its top position as the world's foremost milk-producing nation, with a total milk output of 239.30 million tonnes. This marked a significant 3.78% increase compared to the preceding year. Indigenous cattle play a vital role in contributing 11.36% overall milk production, while non-descript cattle and non-descript buffaloes contributed 10.11% and 13.83%, respectively, to the total milk production of nation (BAHS, 2024).

Casein contains total four different subtypes, among that  $\beta$ -casein is one of most present subtype in cow milk. On the basis of genetic characterization, total 13 variants of  $\beta$ -casein exist, among these, A1 and A2 are the most common variant in milch cattle globally. A1 and A2 beta-casein in milk differ in the amino

acid composition at the 67th position within their protein structure. In A1 milk, this position contains a histidine molecule, whereas in A2 milk, it contains proline. Beta-casomorphin-7 (BCM-7) is a bio active peptide which is released upon digestion of A1 milk in the small intestine. Due to its opioid-like properties, it is known to exert an inhibitory effect on the immune system (Elliott et al., 1999). There is ongoing research and some suspicion that the consumption of A1 beta-casein and the subsequent release of BCM-7 may be associated with several health issues. These potential concerns include an increased risk of developing type 1 diabetes (DM-1), coronary heart disease (CHD), infant mortality, and autism. (Tailford et al., 2003, Yadav et al., 2020).

## Difference between A1 and A2 $\beta$ -Caseins

A1-type casein has the amino acid proline at the 67th position, while A2 has histidine at the same position. The binding of histidine to the preceding amino acid Isoleucine is easily broken by pancreatic elastase, resulting in the release in the gastrointestinal tract of the biologically active peptide BCM 7, which comprises seven amino acids. This does not occur with A2-type casein with proline at the histidine position, whose binding to Isoleucine is not hydrolyzed by pancreatic elastase. A2-type casein is generally more

susceptible to enzymatic hydrolysis by gastric enzymes such as pancreatic elastase, pepsin, and leucine aminopeptidase. As a result of the different binding hydrolysis sites—in the case of A2 casein—a non-bonded BCM-9 is formed (Edwards et al., 2021).

Even before human domestication of cattle, A2 casein was the predominant casein variant. Following a natural mutation 5000–10,000 years ago, individuals emerged whose milk began to be dominated by A1-type casein. Over the following years, as a result of crossbreeding of individuals giving the most milk, which was beneficial from a production point of view, the breeds currently dominant in industrial milk production—Holstein, British Shorthorn, Ayrshire, Friesian, and Sahiwal—were separated. These are breeds with the A2A2 genotype, i.e., predominantly producing A2-type casein. The reduction in cattle biodiversity due to selective breeding has displaced A1-type milk. The percentage of A1  $\beta$ -casein is higher in black and white breeds, such as Pezzata Rossa and Bruna. A1  $\beta$ -casein is absent in the milk of pure Asian and African cattle (Bantivoglio et al., 2020).

## Effects of A1 $\beta$ Casein

### 1. Type-1-diabetes

Type-1-diabetes is a form of diabetes mellitus. It is due to a lack of insulin due to the destruction of insulin-producing  $\beta$ -cells in the islets of Langerhans of the pancreas by autoimmune processes. The contribution of

cow's milk containing A1-milk variant to the development of type-1-diabetes has been controversial for decades (Chia et al., 2018). Cow's milk, one of the first foods introduced early to infants, is one such putative environmental factor (Chia et al., 2017). Children who have specific human leukocyte antigen genotype (HLA-DR) paired with a greater dietary intake of cow's milk protein may be at an increased risk of developing islet autoimmunity and progression to Type-1-diabetes (Lamb et al., 2015).

### 2. Cardiovascular disease

Ecological studies have associated BCM-7 consumption with cardiovascular disease mortality. Research has revealed a link between the intake of A1  $\beta$ -casein and an elevated risk of cardiovascular diseases in humans. A1  $\beta$ -casein consumption has been linked to conditions like hypercholesterolemia and atherosclerosis, establishing its association with heart disease incidence (Venn et al., 2006). Animal studies have further supported this relationship, demonstrating that rabbits fed with  $\beta$ -casein A1 milk exhibit higher cholesterol levels and a greater extent of aorta covered by fatty streaks compared to those fed A2  $\beta$  casein.

### 3. Gastrointestinal disease

The effect of A1 versus A2-milk on gastrointestinal was directly influenced (Haq et al., 2013). Similarly, it has been reported that casein and its derivatives, particularly BCM-7, exert a variety of effects on

gastrointestinal function in animals, including reducing the frequency and amplitude of intestinal contractions (Becker et al., 1990, Mihatsch et al., 2005). Interestingly, it was also reported that in rats A1-milk feeding relative to A2- milk feeding significantly increased the colonic activity of the inflammatory marker myeloperoxidase by 65%, an effect also negated by the opioid blocker naloxone (Barnett et al., 2014).

### 4. Sudden death of infants

Casein-derived peptides as BCM-7 have been suggested to play a role in sudden infant death syndrome. There must be a possible relationship between BCM-7 and sudden infant death syndrome (Sun et al., 2003). On the other hand, the studies have shown that the sera of some infants after an apnoea event contained more BCM-7 than that of the healthy infants in the same age. These results indicate that some children may be sensitive to A1-milk (Wasilewska et al., 2011).

### 5. Milk Intolerances

A2 milk, often found easier to digest, still contains lactose, a primary concern for milk intolerance. Paradoxically, BCM 7 released from A1 $\beta$ -casein appears to slow down food passage through the digestive system, providing more time for lactose fermentation. Additionally, some individuals may specifically exhibit intolerance to BCM-7, contributing to this phenomenon (Prasad et al., 2024).

## 6. Autism

Autism, also called autism spectrum disorder, is a group of neuro developmental conditions characterized by social deficit and repetitive behaviours (Cass et al., 2008). It is believed that peptides like BCM-7 might play a role in the development of autism. However, the studies on this relationship are not always displayed (Kost et al., 2009).

### Conclusion

Whether A2-milk is really healthier than A1-milk or not; farmers, breeders and societies have been dealing with this for several years. The difference

between the two milk variants is only a single amino acid deviation of beta casein. In the course of development, the A1-milk mutation has occurred at some point, because the A2-milk is considered the more natural form. A1-milk and the peptide BCM-7 may be linked to heart disease, diabetes, autism, sudden death of infants and inflammation in the digestive system. A1 milk remains a widely consumed commodity without any bans or restrictions, as it appears that its potential influence on these disorders may be intertwined with various other factors, including environmental influences and

dietary habits. Presently, India stands as the world's largest milk producer, a feat achieved through strategic measures such as the selection of high-yield breeds, improvements in fodder quality, and cattle crossbreeding programs. Notably, crossbreeding has led to the creation of high-yield cattle varieties that predominantly produce A1 milk, raising concerns within the Indian context. Nevertheless, a significant portion of India's milk production is sourced from buffalo, which predominantly yields A2 milk. The results are mixed and further studies are needed.

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# Block chains Transforming Dairy Industry



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## Introduction

In dairy industry, milk is always a nutritious food but has a short shelf life and is a breeding ground for bacterial pathogens. Milk processes help in stretching the shelf life and thereby reduce food borne illness. Production and processing are the two main stages in the dairy supply chain followed by storage and distribution. The dairy product supply chain is a long and complex one with its own challenges.

Therefore, traceability and sustainability have become increasingly critical aspects of the dairy supply chain due to growing consumer demand for transparency, ethical practices, and environmental responsibility. Traceability refers to the ability to track the journey of dairy products from farm to table, ensuring accountability and safety throughout the supply chain. It involves recording and monitoring various stages of production, processing, and distribution to identify potential issues and mitigate risks related to food safety, quality, and authenticity.

Sustainability, on the other hand, entails adopting practices that promote the long-term viability of dairy production while minimizing negative environmental and social impacts. This includes reducing greenhouse gas emissions, conserving natural resources, promoting animal welfare, and supporting local communities. As concerns about climate change,

biodiversity loss, and ethical sourcing continue to rise, dairy companies are under increasing pressure to integrate sustainability into their operations.

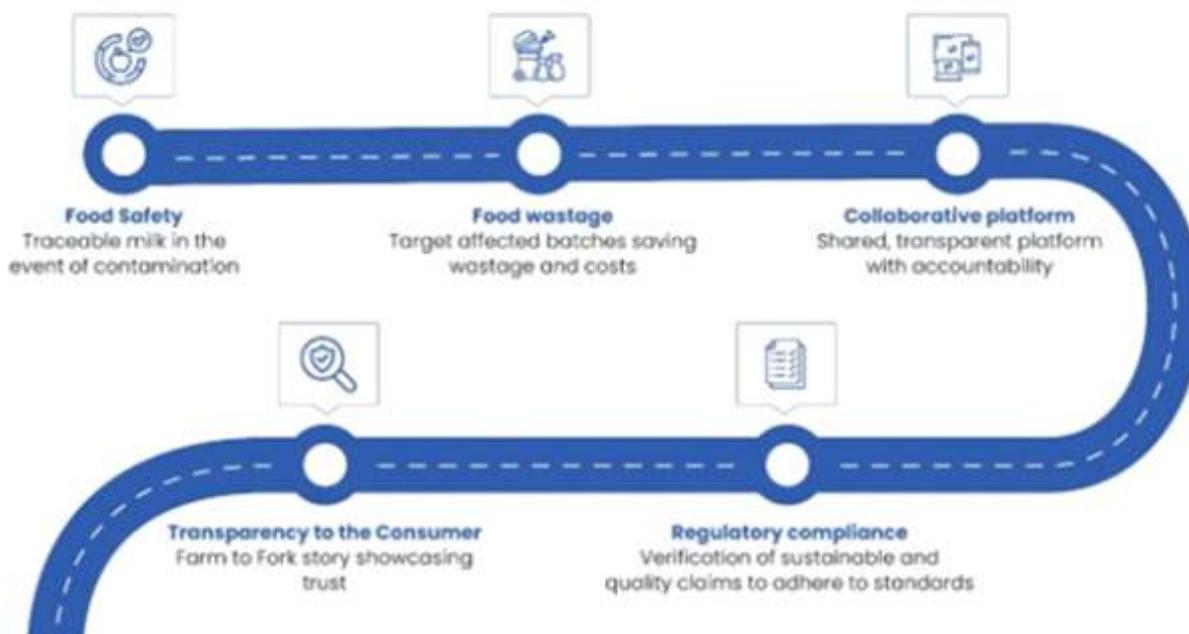
## Technology for Dairy Supply Chain

Blockchain's decentralized and immutable ledger allows dairy companies to track the entire journey of milk from farm to table, ensuring authenticity, quality, and safety for consumers. By recording every transaction and movement along the supply chain, blockchain provides unprecedented transparency and accountability, reducing the risk of fraud, contamination, and counterfeit products. This innovative use of blockchain technology is reshaping the milk industry, empowering consumers with access to reliable and verifiable information about the products they consume.

Blockchain technology provides a decentralized, tamper-proof ledger that records every event within the dairy supply chain. Each critical transaction or event — including milking, storage, transportation, quality checks, and packaging — is logged onto the blockchain, establishing a permanent and verifiable history for each batch of dairy product. This enables stakeholders to trace any contamination or spoilage incidents back to specific stages, allowing for rapid response and issue containment.

## Key Areas to focus on:

## BENEFITS OF DAIRY SUPPLY CHAIN TRACEABILITY



(Source: TracexTechnologies, www.google.com)

### Security in terms of nutrition and food:

Every batch in the milk supply chain can be accurately tracked thanks to blockchain technology. Blockchain makes it incredibly simple to locate the problematic link and reject all affected sets in the event of a food-borne illness.

### Spoiled food:

With regard to product recalls, the level of precision provided by blockchain enables the avoidance of mass recalls of an entire product line, minimizing food waste, overall costs, and the effect on brand image.

### Alliance

Blockchain functions as a "trusted third party" because it is a decentralized, distributed ledger. It makes it possible for all participants in the food chain—including feed mills, farmers, cooperatives, manufacturers, brands, and retailers—to securely exchange

information, enabling them to follow a product from start to finish and ensure compliance.

### Openness

A great way to stand out from competitors is to guarantee the full transparency of a product's journey. The blockchain enables customers to discover a product's whole history and quality assurance. Consumers are more willing to spend more money on a product that they know reflects their beliefs and are more likely to buy one that provides more detailed information, according to study.

### Affirmation

Confidence will also be increased by tangible proof of certifications and product claims (tags, audits, etc.). By giving the essential information to independent certifying authorities in this instance, blockchain makes certificate verification possible (for evidence of origin, environmental footprint, animal welfare, and so

on). It is now simpler to earn and retain certifications. It consequently becomes more pertinent to the consumer.

### Conclusion

Customers' trust in the products is increased by the use of blockchain in the dairy industry, which raises demand for the package.

This comprises.

- Secure processing, storage, and digital verification of official documents to safeguard patent systems and intellectual property rights.
- Supply chain transparency at all times.
- Fraud and risk reduction.
- Finally, increased food safety.
- The dairy industry may use blockchain to improve product quality, regulate safety, and create a decentralized platform that connects farmers and consumers. Blockchain is the next technological revolution.



# Fatty Cow Syndrome (Fatty Liver Syndrome)

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## Introduction

Fatty cow syndrome is a metabolic disorder primarily affecting dairy cows that are excessively fat (over-conditioned) at the time of calving, especially during the periparturient period (just before, during, and after calving). It is considered an extreme form of fatty liver disease, characterized by the accumulation of excessive fat in the liver and other organs.

This syndrome is considered a herd-level problem with high morbidity and mortality rates, and its economic impact is substantial due to losses in milk yield, increased veterinary costs, and higher culling rates. Prevention focuses on proper nutritional management, particularly avoiding overfeeding during late lactation and the dry period, and ensuring cows maintain an optimal body condition score at calving.

## Causes

- **Faulty feed management:** Overfeeding and unbalanced diets during late lactation and the dry period leads to excessive body fat reserves.
- **Negative energy balance:** A lack of nutrition or an excessive need for energy immediately following parturition causes an excess

of fat to be mobilized from the body's stores and transported to the liver. Typically, subcutaneous fat is released and stored in the kidney, muscles, or liver. In the early stages of lactation, the illness is more prevalent in high-yielding dairy cows. It happens when the diet of high-yielding animals does not provide enough energy.

- **Over-conditioning:** Cows with a high body condition score (typically >3.5 or 4) are at higher risk.

**Pathogenesis:** In healthy animals, the quantity of fat that is deposited in the liver increases significantly at calving but decreases during later stages of pregnancy. But a few weeks after giving birth, the liver's fat content returns to normal. Free fatty acids are released and subcutaneous fat is mobilized when there is an excessive need for energy. It causes larger hepatocytes, enhanced hepatic lipogenesis, and fat buildup. Lipoproteins are not adequately transported from the liver, and the liver's glycogen storage is reduced.

## Clinical signs

- The illness typically manifests a few days after calving, though it can also happen a few days prior.
- They have appetite loss and

may exhibit signs of indigestion, abomasal displacement, or parturient paresis, but they do not improve with treatment.

- Later on, they exhibit ketotic signs and become anorectic and recumbent, but glucose therapy is similarly ineffective.
- Ketonuria, progressive weight loss, normal heart and pulse rates, and anxious signs like trembling muscles and a fixed gaze are all visible.
- These animals exhibit unconsciousness and tachycardia prior to death, and they pass away within a week.
- The postmortem examination reveals an enlarged liver that appears grey and pale yellow in colour. The liver has fatty infiltration.

### **Economic Importance of Fatty Cow Syndrome**

Fatty cow syndrome has significant economic implications for dairy farms due to its direct and indirect effects on cow health, productivity, and herd management.

- **Reduced Milk Production:** Fatty cow syndrome leads to lower milk yield and poorer milk composition, directly decreasing farm revenue. Cows affected by metabolic disorders like fatty liver and ketosis may produce significantly less milk, and the quality of milk can also be adversely affected.

- **Increased Health Care and Treatment Costs:** Cows with fatty cow syndrome are more susceptible to other metabolic and infectious diseases, such as ketosis, metritis, and lameness, all of which require veterinary intervention and increase treatment costs.
- **Higher Culling Rates:** The syndrome often necessitates early culling of affected animals, resulting in loss of investment in those cows and additional costs for replacement animals. Early culling also disrupts herd structure and long-term productivity.
- **Reduced Fertility and Reproductive Performance:** Over-conditioned cows experience more reproductive issues, including reduced fertility rates and increased calving intervals, further impacting herd productivity and profitability.
- **Increased Susceptibility to Other Diseases:** Fatty liver impairs liver function, making cows more vulnerable to a range of diseases, which amplifies economic losses through both direct (treatment, labour) and indirect (production loss, increased culling) costs

**Diagnosis:** A blood test confirms the diagnosis based on symptoms. Liver-specific enzyme activity, bilirubin levels, and  $\beta$ -hydroxybutyrate levels rise while albumin, magnesium, and cholesterol levels fall.

Ketoneuria, leukopenia, neutropenia, and lymphopenia are also observed in these animals. Its diagnosis is further aided by the examination of liver biopsies to document fatty infiltration of the liver. It is important to distinguish the illness from downer's cow syndrome, postpartum paresis, and left abomasal displacement. Auscultation of the left abdomen shows tinkling noises in situations of left abomasal displacement, while calcium treatment is effective in cases of postpartum paresis. Animals with Downer's cow syndrome are awake and intelligent, yet they are unable to support themselves on their hind legs.

**Treatment:** If the affected animals are not given prompt medical attention, they will perish. It is possible to administer glucose and electrolyte solution intravenously, 200–300 units of insulin subcutaneously twice a day, and 20 mg of dexamethasone on alternate days. Continuing this treatment for approximately one week. 25g of choline chloride can be administered subcutaneously four times a day in severe cases. 6g of betaine per cow per day is used as an effective rumen modulator. Giving propylene glycol orally aids in healing as well. By preventing fat deposition in the latter trimester of pregnancy and giving the animals the right nourishment both before and after calving, illness can be avoided.



# Home-Based Trauma in Dairy Cattle: Strategies for Effective Pain Management and Welfare Enhancement

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## Introduction

Pain is a more terrible lord of mankind than even death”—Albert Schweitzer, 1922. Dairy animals are an important asset to most of the households, particularly in rural and suburban areas. They not only provide milk but also contribute to the livelihood and nutritional security of families. Unfortunately, due to poor housing conditions, unstable footing, handling errors, or external threats (like dog attacks or vehicle collisions), dairy animals are prone to trauma or accidental injuries at home. Proper pain management is crucial in such situations, not only for animal welfare but also to maintain productivity and prevent secondary complications.

## Common Causes of Trauma in Home-Reared Dairy Animals

1. **Slipping or Falling** – particularly common on wet, smooth floors or uneven ground.
2. **Horn Injuries** – From fights between animals or improper restraint.
3. **Accidental Hits** – From vehicles, tools, or during handling.
4. **Animal Attacks** – From stray dogs or wildlife.
5. **Improper Tethering** – Leading to rope burns, choking, or limb injuries.

## Clinical Signs of Pain in Dairy Animals

Dairy animals are prey species and

often tend to hide signs of pain, making it challenging to detect. However, the following signs can indicate trauma or pain:

- Reluctance to move or stand
- Lameness or limping
- Swelling or heat in limbs
- Vocalization (bellowing, groaning)
- Reduced feed and water intake
- Behavioral changes (kicking, head pressing, isolation)
- Grinding of teeth or abnormal posture

## Principles of Pain Management

1. **Timely Response** – Early treatment can prevent worsening of injury and ensure faster recovery.
2. **Multimodal Therapy** – Using different types of pain relief (NSAIDs, local anesthetics, and supportive care) offers better control.
3. **Animal Comfort and Stress Reduction** – Creating a quiet, clean, and safe environment is crucial.

## First Aid and Initial Management at Home

- **Wound Cleaning:** Clean open wounds with antiseptic solutions like diluted povidone-iodine or chlorhexidine.
- **Cold Compress:** Apply cold packs in the first 24 hours to reduce inflammation and pain in blunt injuries.

- **Immobilization:** In suspected fractures, restrict movement using padded splints or support bandages.
- **Avoid Unqualified Intervention:** Do not attempt to set fractures or suture deep wounds without veterinary assistance.

### Veterinary Pain Management Protocols

#### 1. Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)

Commonly used for controlling pain and inflammation:

- Meloxicam
- Flunixin meglumine
- Ketoprofen

These drugs are usually administered via intramuscular or subcutaneous injection and provide relief for 24–72 hours.

#### 2. Local Anesthesia

Used in localized injuries or minor surgical interventions

- **Lidocaine** – For nerve blocks or infiltration during wound management.

#### 3. Antibiotics

For treating or preventing secondary infections in open wounds:

- **Oxytetracycline**
- **Penicillin-streptomycin combinations**

#### 4. Supportive Therapy

- **Fluid therapy** if there is shock or dehydration.
- **Multivitamin injections** to support healing.
- **Topical sprays or ointments** for wound healing.

### Home-Based Supportive Measures

- **Soft Bedding:** Provide dry, impact absorbing flooring (like

sand or straw) to reduce pressure on limbs.

- **Restricted Movement:** Confine the animal to a safe area to prevent further injury.
- **Clean Environment:** Prevent contamination of wounds.
- **Monitoring:** Regularly observe for signs of infection or deterioration.

### When to Call a Veterinarian

Immediate veterinary intervention is required in cases of:

- Deep wounds or profuse bleeding
- Suspected fractures or dislocations
- Difficulty in standing or severe lameness
- Signs of shock (cold ears, rapid breathing, unconsciousness)
- Lack of response to initial pain relief within 24 hours

### Welfare and Legal Perspective

Animal welfare legislation emphasizes the humane treatment of all animals. Disregarding pain management can not only lead to suffering but may be considered a legal offense under Prevention of Cruelty to Animals Acts in many countries. Owners have a moral and legal duty to ensure their animals receive timely and appropriate care.

### Conclusion

Pain management in dairy animals following trauma or accidents at home is a vital aspect of animal husbandry. Timely identification, immediate first aid, and veterinary-directed care are the key elements of successful recovery. With improved awareness and proper care, farmers and animal owners can ensure better health, productivity, and welfare for their dairy animals.

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# Monsoon Management of Dairy Animals: Nurturing Livestock Through Rain and Resilience



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As the first drops of monsoon rain kiss the earth, they bring with them a promise of renewal — greening the fields, replenishing water sources, and offering respite from the scorching heat. But for dairy farmers, this rhythm of rain is also a call to readiness. The monsoon season, though vital to agriculture, is fraught with challenges that can endanger the health, comfort, and productivity of dairy animals. It demands more than just shelter from the storm — it calls for thoughtful, proactive care grounded in understanding, vigilance, and timely action.

## When the Rains Arrive: Understanding the Monsoon Challenge

Monsoon's magic often masks its menace. For dairy animals, it brings a sharp rise in humidity, persistent dampness, and unstable temperatures — ideal conditions for the rapid spread of infections, parasites, and stress-related ailments. Hooves grow soft and susceptible to rot; teats, if not kept clean, become prone to mastitis. The very ground they stand on becomes a breeding ground for germs, and feed, once nutritious, quickly turns mouldy and toxic if not stored with care. The consequences are not

merely physical. The psychological well-being of animals also takes a hit during erratic weather, especially when their environment becomes noisy, cold, and uncomfortable. These stresses often lead to lowered milk yield, delayed reproductive cycles, and weakened immunity. Thus, monsoon management is not simply a chore — it is a compassionate commitment to the well-being of the animals that sustain us.

## The Foundation of Protection: Shelter and Housing

The first line of defence against monsoon-related health issues is proper housing. Animal shelters should be elevated, well-ventilated, and built with a slight slope to prevent water accumulation. A leaky roof or clogged drain is more than an inconvenience — it is a potential health hazard. Regular maintenance of the shelter, including roof inspections, drainage system checks, and floor repairs, is essential before and during the rainy season.

Inside the shelter, the focus should be on keeping the space dry and clean. Bedding materials like straw, sawdust, or sand should be used generously and replaced frequently. Clean, dry flooring is especially crucial



for lactating cows and buffaloes, as it helps prevent udder infections. Good ventilation further reduces humidity and prevents respiratory distress, ensuring animals can breathe easy even as the air outside turns heavy with moisture.

### **Feeding with Foresight: Nutritional Strategies for the Rainy Season**

Feeding dairy animals during monsoon requires careful planning. The high moisture content in green fodder and improper storage of concentrates often lead to fungal growth and fermentation. Spoiled feed not only reduces nutritional value but can also cause serious health issues like indigestion and mycotoxin poisoning.

To counter this, farmers should store dry fodder in well-covered, raised platforms. Silage — fermented, preserved green fodder — serves as an excellent alternative, offering both nutrition and shelf life. Concentrated feed and mineral

mixtures must be kept in airtight containers away from moisture.

It's also crucial to adjust feeding schedules. During cold, rainy spells, animals may eat less or lose interest in feed. Offering warm water, mixing molasses to improve taste, and feeding during drier times of the day can encourage better intake and digestion.

### **Water: The Source of Life and Risk**

While monsoon fills ponds and rivers, it also raises the risk of waterborne diseases. Clean drinking water is non-negotiable. Water troughs should be covered, cleaned daily, and positioned away from drainage outlets. In areas where piped water isn't available, simple filtration or boiling techniques can be used to ensure safety.

Using potassium permanganate or bleaching powder to disinfect water sources and troughs helps eliminate pathogens. Remember, animals drink more during humid

weather, and contaminated water can undo even the best feeding practices.

### **Guardians of Health: Veterinary Care and Preventive Measures**

Monsoon often acts as a trigger for a surge in livestock diseases. Hence, it is the season where prevention is truly better than cure. Vaccinations must be up-to-date, especially for diseases like Foot-and-Mouth Disease (FMD), Haemorrhagic Septicaemia (HS), Black Quarter (BQ), and Brucellosis. Regular deworming and ectoparasite control, using approved sprays or dusting powders, are vital to keeping flies, ticks, and lice at bay.

Hoof health deserves particular attention. Standing in wet and dirty conditions softens hooves and opens the door for painful infections. Weekly hoof cleaning, lime sprinkling, and antiseptic footbaths can prevent most issues.

Farmers should also be trained to observe early symptoms of illness — swelling, fever,

reduced appetite, or changes in behaviour. Prompt attention can prevent complications and minimize treatment costs.

### **Clean Surroundings, Healthy Livestock: Waste and Hygiene Management**

Waste management becomes especially important during monsoon, as excess moisture can lead to foul smells, insect breeding, and water contamination. Sheds should be cleaned twice daily, and dung should be composted or fed into biogas units to maintain hygiene and generate value.

Run-off water from animal sheds should be directed away from feed and water areas. Use of lime powder, phenyl, or eco-friendly disinfectants around the sheds can help keep fly populations low and diseases at bay.

### **Calving and Young Stock: Special Care for the Vulnerable**

Young calves and pregnant animals are particularly vulnerable during the monsoon. Calving should ideally be planned outside of peak rainy periods, but if unavoidable, warm, clean, and dry birthing areas must be arranged. Newborn calves must be dried immediately, given warm colostrum, and kept under heat or bedding to avoid pneumonia and diarrhoea — common monsoon killers.

Young stock should be dewormed regularly and monitored for navel infections,

eye infections, or joint issues, which are aggravated by wet and unhygienic conditions.

### **Empowering Farmers: Knowledge is the Greatest Tool**

While infrastructure and medicine play vital roles, nothing replaces knowledge and preparedness. Dairy farmers should attend seasonal workshops, connect with veterinarians, and use modern resources like mobile apps, SMS alerts, and local weather advisories. Government departments and veterinary universities frequently organize free training and vaccination drives — making use of these services can dramatically reduce risk and increase profits.

### **Conclusion: Turning Rain into Reward**

The monsoon season, with all its unpredictability, is a profound reminder of nature's duality — it can both nourish and threaten. For dairy farmers, it is not merely a change in weather but a period that tests preparedness, patience, and care. While the rains bring life to the land, they can also create a cascade of challenges for the animals that form the heart of the dairy enterprise. But within these challenges lies an opportunity: an opportunity to strengthen systems, deepen knowledge, and reaffirm the commitment to animal welfare.

Monsoon management of dairy animals is far more than a seasonal checklist — it is a philosophy of proactive care. It

calls for shelter that is not just a roof, but a safe haven; for feed that is not just plentiful, but protected; for health care that is not reactive, but preventative. Clean water, dry bedding, timely vaccinations, and watchful eyes can make the difference between a thriving herd and a struggling one. Each act of care, however small, ripples outward — safeguarding animal health, securing milk yields, and protecting the farmer's livelihood.

What's more, effective monsoon management fosters a deeper connection between humans and animals — one built on responsibility, empathy, and trust. It encourages innovation, whether through traditional wisdom, modern veterinary practices, or digital tools that bring real-time support to rural doorsteps. It empowers farmers not just to endure the season, but to embrace it with confidence and clarity.

In essence, monsoon resilience is not born from resistance to change, but from readiness for it. With thoughtful preparation, consistent care, and community learning, dairy farmers can transform the rainy season into a period of strength and sustainability. The monsoon may test our resolve — but with every well-managed farm and every healthy animal, it also celebrates our ability to rise, adapt, and grow.



# Impact of Essential Nutrient on Udder Health In Cow

## Introduction

Udder health is a critical component of dairy cattle productivity, welfare, and milk quality. Cows with healthy udders mean lower costs for veterinary care and lower culling rates. The primary function of the udder is to produce, store, and release milk. It is composed of a complex network of ducts and vessels, supported by muscles and ligaments that aid in milk production and letdown. A healthy udder is essential not only for sustaining milk yield but also for ensuring the overall well-being and productivity of the cow.

Maintaining udder health is vital for dairy farm profitability. Any compromise in udder health can lead to decreased milk yield, increased veterinary costs, and diminished animal welfare—ultimately reducing farm profitability. One of the most significant threats to udder health is mastitis, a prevalent and costly disease worldwide. Mastitis is often indicated by increased somatic cell counts and bacterial contamination, with reduction in milk quality & quantity. Good udder health results in a low incidence of clinical mastitis, subclinical

mastitis and a low somatic cell count. There are different factors responsible for affecting udder health of cow like infection, managemental practices and nutrition. Out of these factors, nutritional management plays a pivotal role in preventing udder infections and maintaining overall udder health.

Unfortunately, the animal's trace mineral and vitamins status are often overlooked until an animal's performance falls below expectation or illness is detected; therefore, data exploring the effects of supplementation on udder health are still incomplete.

## Factors affecting udder health

- 1. Infection** - Bacteria, viruses, and fungi can cause mastitis and other udder infections
- 2. Environmental** - Cow cleanliness, and climate conditions can influence udder health.
- 3. Managemental practices**- Milking procedures, hygiene, and monitoring
- 4. Immune system of animal** – Immune system plays important role in fighting against infectious agents
- 5. Injury/trauma**-

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## 6. Nutritional balance-

Adequate nutrition, including energy, minerals, and vitamins, supports the immune system and udder health.

### Nutrition and of udder health

Nutrition plays a critical role in udder health. Numerous studies have demonstrated the link between nutritional status and mastitis susceptibility. When cows receive unbalanced or inadequate diets, their immune systems may become suppressed, reducing their ability to fend off infections. This immunosuppression increases the likelihood of mastitis and other infections.

#### a. Beta Carotene

Beta carotene, a precursor to vitamin A, plays a crucial role in udder health and raw milk quality in dairy cows. Supplementation with beta carotene has been shown to improve udder health by reducing somatic cell counts (SCC) in milk and reducing

the incidence of subclinical mastitis.  $\beta$  carotene also functions independently of Vitamin A in mastitis and reproduction. The necessity of  $\beta$ -carotene for reproduction has been demonstrated in many studies. It is also known for its anti-infective role and thus protect animals against numerous infections, including mastitis. Low concentrations of plasma vitamin A ( $<80 \mu\text{g}/100 \text{ ml}$ ) and  $\beta$ -carotene ( $<200 \mu\text{g}/100 \text{ ml}$ ) are associated with severity of mastitis. These can exert a stabilizing effect on polymorphonuclear neutrophils and lymphocyte function in the udder. Vitamin A or B-carotene supplementation of dairy cows may improve mammary gland host defence and may have some positive effects on mammary gland health and maintain teat canal health by maintaining mucosal and epithelial integrity in the udder. Beta-carotene also

acts as an antioxidant and may reduce the severity of intramammary infections.

#### b. Vitamin D3

Higher levels of Vitamin D are required for proper immune function specifically it support innate immunity. It is reported that significant reduction occurs in bacterial counts and fewer clinical signs of severe infection in cows treated with vitamin D, compared to cows that received no treatment. In the early stage of the infection, as vitamin D contributes to calcium metabolism, which affects smooth muscle contraction and teat sphincter function—critical for preventing bacterial invasion post-milking and hence milk production was also greater in the treated animals.

Some research indicate that vitamin D3 supplementation can increase heat detection, conception, and pregnancy rates and enhance the development of embryos in vitro, potentially leading to better outcomes in assisted reproductive technologies.

#### c. Vit B12

B12 plays a role in maintaining a healthy immune system, which is crucial for protecting the udder from infections and mastitis. It also supports energy metabolism, which is important for overall health and well-being, including udder function.

#### d. Vitamin E

It is known potent biological

## Role of Beta Carotene



antioxidant and a free radical scavenger. Considering this, vitamin E also perform important functions in various systems namely, muscular, nervous, circulatory, reproductive and immune system. Certain studies demonstrated that cows with low plasma vitamin E levels before calving are 9 times more prone to udder infection and clinical mastitis compared to acceptable blood levels. NRC (2001) recommends higher dietary vitamin E levels for transition and lactating cows to maintain the minimum plasma vitamin E concentration for optimum immune response. Such replenishment of blood levels could boost phagocytic neutrophil reactions for control of pathogenic invading microbes in the udder.

**e. Biotin/Vitamin H:**

Biotin is specially required for production of keratin and the epidermal tissues of hoof-horn. It involves in the keratin synthesis and integrity of teat canal of udder of dairy animals to supports the growth and development of mammary gland and plays important role in prevention of invasion by pathogens and thus prevention of mastitis. Besides, Biotin has other important metabolic effects that could influence milk production, as it acts as cofactor of three different enzymes needed for synthesis

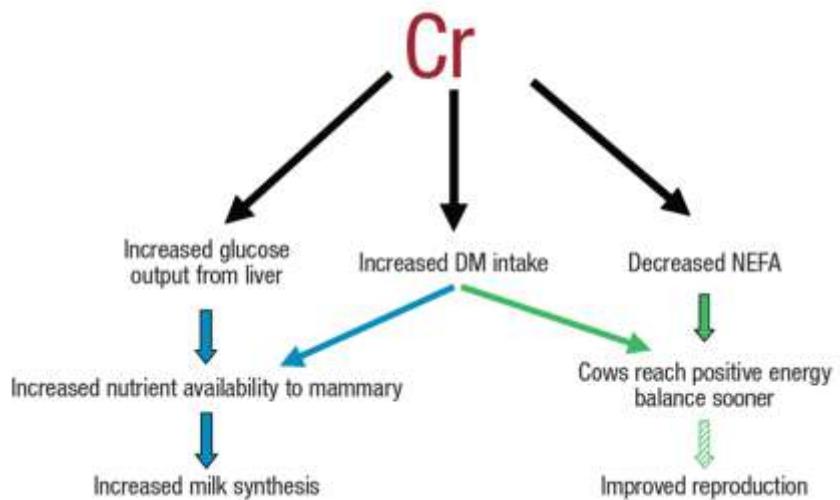


Fig 1

of glucose and one required for synthesis of fatty acids. The multiple research reports show that biotin supplementation can improve lactation performance. Research in dairy cows has shown a consistent response to biotin supplementation, including improved digestibility and a higher milk yield. Biotin supplementation at 10 mg/d shown to increase milk yield by 1.5 kg per cow (Bonomi et al.1996).

**f. Chromium**

Chromium is a primary determinant of glucose tolerance factor (GTF) and the maintenance of glucose homeostasis, which improves insulin binding and increases glucose clearance. Chromium has been shown to play a vital role in the metabolism of carbohydrates, proteins and lipids and in improving the immune function in livestock. It is effective in increasing glucose use and growth performance. It increases effectiveness of insulin action in lactating ruminants which

has an overall increase in metabolic efficiency, leading to improved production.

Specially, Chromium propionate supplementation of dairy cattle diets has significant potential to enhance dry matter intakes, milk yields, and the metabolism of glucose and NEFA (non-esterified fatty acid), especially in transition cows (Figure 1).

Enhancements in the metabolism of NEFA and glucose also have implications for improved reproduction. The biggest advantage might be in lowering the prevalence of periparturient conditions like fatty liver, metritis, mastitis, displaced abomasum, and ketosis.

Organic sources of chromium have been found to be highly bioavailable, and the beneficial effects of chromium supplementation have been proven by various studies carried out with livestock. Chromium supplementation also improves health and

immune function in stressed calves & cows. Chromium supplementation in aged cows, reduce placental retention and udder edema (Bryan et al., 2004)

### g. Betaine

Betaine (trimethylglycine) is a naturally occurring compound that has gained attention for its role in improving animal health and performance, including udder health in dairy cattle. It can also help reduce the number of somatic cells in the milk and exhibit transient proliferative and protective effects in mammary epithelial cells under normal and heat stress conditions, respectively. Betaine plays a role in cellular processes, including those involved in reproduction. It can help maintain the health of the reproductive tract and improve the success of breeding efforts. Few scientific data

suggested positive roles for betaine as feed supplements on improving the function of the bovine udders as below-

### Mechanisms by Which Betaine May Impact Udder Health

#### Osmo-protective Effects:

- Betaine helps maintain cellular hydration and protects mammary cells from osmotic stress during lactation.
- This is particularly beneficial under heat stress conditions, which can otherwise compromise udder function and immunity.

#### Anti-inflammatory Properties:

- Betaine has been shown to reduce the expression of pro-inflammatory cytokines.
- This can reduce the risk or severity of mastitis, an inflammatory condition of the udder.

### Enhanced Immune Function:

- It may improve innate immune responses, including the activity of neutrophils and macrophages in the mammary gland.
- This can help the cow better fight off infections that cause subclinical or clinical mastitis.

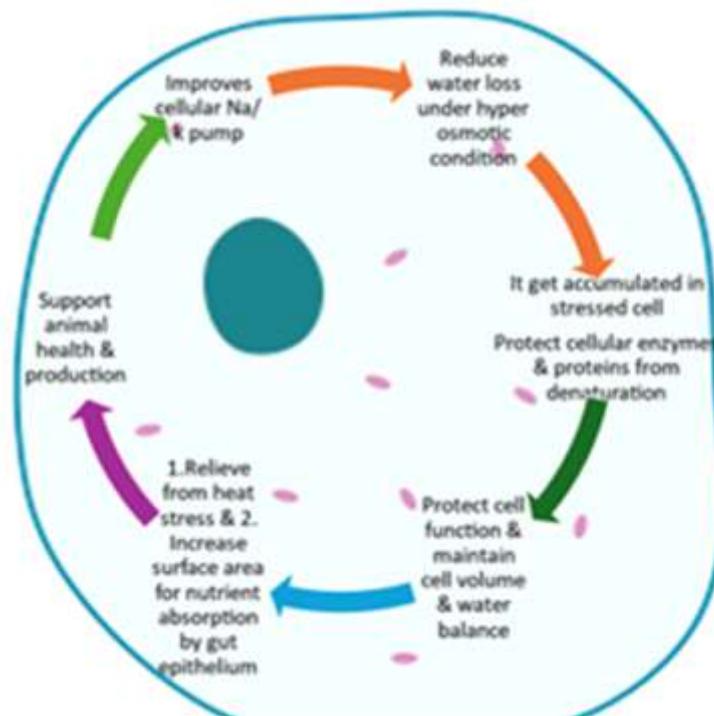
### Modulation of Milk Composition:

#### Composition:

- Some studies report that betaine supplementation can increase milk yield and improve milk quality, including components like fat and protein.
- Healthier udder tissue supports better milk synthesis and secretion.

### Conclusion

Optimal nutrition is paramount for dairy cows to maintain robust udder function, ensure high milk production, and support overall well-being. Lack of essential nutrients can jeopardize udder health, reducing milk yield and increasing susceptibility to infections. Ensuring availability of essential nutrients like  $\beta$ -carotene, Biotin, Betain, Chromium Vitamin E etc. through balanced diets or strategic supplementation can significantly enhance udder health in cattle. While good hygiene and management practices are key in preventing mastitis, nutrition provides a foundational defence mechanism by supporting the cow's immune system and maintaining tissue integrity.





# Importance of Bio-Security Dairy Farms

## Introduction

Infectious diseases are the major cause of economic losses at dairy farm. These economic losses are in form of mortality, unproductive animals and reserve infection in replacement herd. These infectious agents are also responsible for some zoonotic diseases as well as infections within herd. The global temperature is increasing due to climate change. This change in climate has negative effect on welfare of all living beings. Animals are also subjected to climate change with negative effect on their production, reproduction and immunity. In shortly we can say that animals are more prone to infectious diseases in climate change scenario.

Term biosecurity refers to practices that prevent spread of new disease in farm and control of infections present within herd. Biosecurity is the base of any disease control programme. Biosecurity is important to prevent animals from new infection, infections within herd and zoonotic disease which can affect both animals and farm workers. Biosecurity involves assessment and reduction of risk

with the aim to maintain and improve health, production and welfare of dairy farms.

## Components of Bio-Security

The components of bio security are external (Bio-exclusion) and internal biosecurity (Bio-containment). Bio-exclusion is prevention of introduction of new infectious agents to farm and Bio-containment is prevention of spread of disease within farm. The detail about components is provided in table

## Mandates to achieve Biosecurity at dairy farm

### 1. Restrict entry

The entry of visitors should be restricted in dairy farm as they may act as carrier of various disease. The persons which are in regular contact with animals like workers, vets and paravets should be healthy and free from zoonotic disease. There should be a provision of foot bath for vehicles and humans on main gate of dairy farm. The dairy farm should be fenced properly and there should be only one entry.

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External Biosecurity (Bio-exclusion)	Internal Biosecurity (Bio-containment)
Purchasing of animal	Vaccination and deworming
Contact with stray animals	Feed and Water quality
External vehicles and visitors	Worker's hygiene
Wild animals and birds in vicinity to farm	Safe disposal of animals and waste

## 2. Quarantine and Isolation

Quarantine is practice of keeping newly purchased animals from herd to prevent risk of spread of disease. Quarantine period generally goes upto 3-6 weeks depending upon incubation period of disease. Isolation refers to segregating of infected animals from healthy ones. Former is considered as a practice of external-biosecurity while later is considered under internal-biosecurity.

## 3. Worker's hygiene

Worker's hygiene also plays a major role in biosecurity of farm because workers are in regular contact with animals and can carry infection from outside of farm. Workers should change their cloth and clean themselves thoroughly before entering and leaving the farm.

## 4. Health care schedule

Proper vaccination and

deworming are necessary for healthy herd. Prevention of animals from ectoparasites is as important as vaccination and deworming. Vaccination and deworming schedule should be strictly followed at dairy farm and animals should be protected against ectoparasites.

## 5. Pest control

Rodents, flies and mosquito act as carrier of various diseases so these must be controlled. Rodents may contaminate feed hence storage rooms should be rodent proof and their entry should be restricted. Entry of stray animals should not be allowed in farms.

## 6. Waste Management

Slurry and manure at farm may act as breeding sites for vectors. Dung and manure should be collected and transported to dumping sites to reduce breeding of vectors. Improper disposal of carcass also risks spread of disease so animal

should be buried and covered with soil atleast for 2 feet to reduce fly menace.

## 7. Cleaning and Disinfection

Cleaning and disinfection help in well-being and health of animals. Proper cleaning and disinfection helps in reduction of pathogens hence breaks life cycle of pathogens and decreases the intensity of pathogens.

## Conclusion

Biosecurity is an important pillar in health management of farm which directly influence productivity and profitability of farm. Various biosecurity measures are discussed in this article which helps in achieving better health in farm animals. If proper biosecurity measures are followed at farm it will reduce the incidence of disease hence helps in achieving the good health of animal and ultimately leading to more profit and less mortality at farm.



(a) Foot bath for visitors



(b) Rodent catcher pads



© Waste disposal



# Mastitis: A Persistent Threat to Dairy Health and Economy

## Introduction

Bovine mastitis (where 'mast' refers to breast and 'itis' denotes inflammation) is a significant disease impacting dairy cattle and buffalo globally. This condition is characterized by inflammation of the mammary glands in dairy animals, caused by various infectious or non-infectious etiological factors.

Mastitis must have been one of the first recognised diseases of farm animals when cattle were initially domesticated over 5000 years ago. Since that time, it has been a persistent problem for everyone who owned and milked dairy buffaloes and cattle. In India, there are about 80 million

milk producers who raise one or two cows or buffaloes primarily for their livelihood. Despite India being the largest milk producer globally, bovine mastitis continues to be a significant production disease affecting dairy animals, that either directly or indirectly impact farmers' economy and ultimately affects the national economy.

## Understanding Mastitis and Its Causes

Mastitis may be triggered by wide range of microorganisms, primarily bacteria, but also fungi, viruses and mycoplasma in rare cases. The infection mainly enters via udder through the teat canal, usually during or after milking

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process.

According to reports, Staphylococci, Streptococci, Escherichia coli, Pseudomonas species, Corynebacterium, Mycoplasma, Streptococcus dysgalactia, and Mycobacterium tuberculosis etc. are the organisms that cause mastitis in dairy cattle and buffalo. Staphylococcus aureus is the most common pathogen associated with cow mastitis.

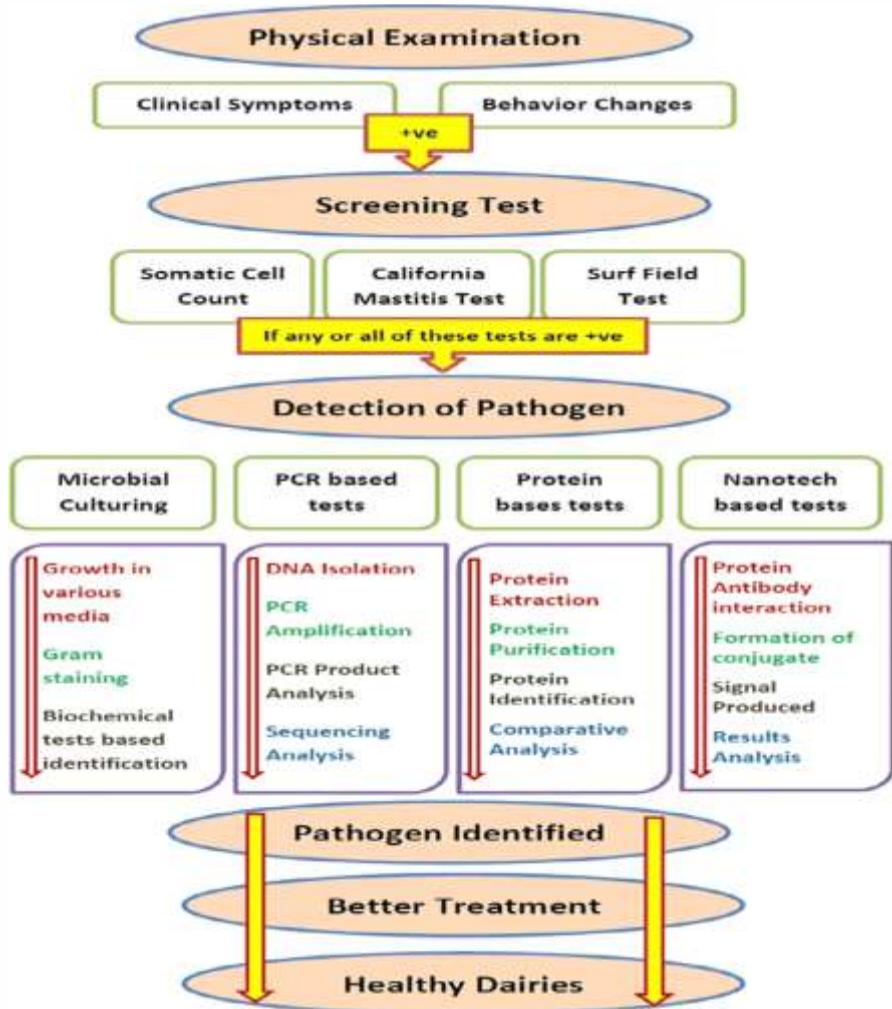
The most common mastitis pathogens are found either in the udder as contagious pathogens or present in the animal's surroundings such as bedding and manure soil as environmental pathogens. Among the contagious pathogens, Staphylococcus aureus and Streptococcus agalactiae are most frequently encountered. These pathogens are transmitted from infected to clean udders during the milking process through contaminated milker's hands, cloth towels used to wash or dry udder of more than one animal and potentially by flies.

**How Mastitis Affects the Dairy**

**Industry**

Mastitis is a worldwide problem as it adversely affects animal health, milk quality and economics of milk production and

significant financial loss of every country including those are developed. India stands as the highest milk producer in the world but the per capita availability of milk still remains half of the world average, demanding strategic intervention. One of the reasons for low productivity is poor animal health, especially mastitis which is single largest problem in dairy animal in terms of economic losses in India. It is proved by the reports that the annual economic losses due to bovine mastitis have increased 135 times in over the course of nearly 50 years, from INR 529 million/year in 1962 to INR 71655.1million/year in 2009. A single case of clinical mastitis may result in a loss of thousands



of rupees, factoring in reduced milk production, treatment costs, discarded milk during antibiotic therapy, and labour. Subclinical mastitis, though not easily visible, accounts for the majority of losses due to its persistent and undetected nature.

### Detection and Diagnosis

Diagnosis of clinical mastitis is based on the appearance of abnormal milk like off color, watery, bloody or curd like appearance and pus may also present milk. The degree of swelling, intensity of pain and the overall appearance of the cow will reflect the severity of infection and serve as a guide for the course of treatment. Diagnosis of subclinical infection is more challengeable because the milk appears normal but usually has an elevated somatic cell count.

Diagnosis of subclinical mastitis can be made in a various methods including directly measuring the somatic cell count (SCC) level or indirectly conducting a California Mastitis Test (CMT) on suspected quarters. The presence of mastitis pathogen can be detected by culture of milk of suspected quarters but level of inflammation cannot be detected by this.

### Prevention is Better than Cure

Maintaining hygiene during

milking, managing housing and bedding, and culling cows that are chronically infected can all contribute to reducing the spread of the disease. Additionally, implementing an effective diet for dairy cows can also play a significant role in this effort. The effective management and control of mastitis depends upon instigating and maintaining strict levels of hygiene at all stages in the dairy cow's routine in order to keep teats clean and healthy: this principle is applicable not only to lactating cows, but also to heifers and dry cows.

- Cow's cubicles and loose housing facilities should be kept as clean as possible, with fresh bedding applied regularly to minimize the risk of cross-contamination from one animal to the next.
- Cattle should be handled carefully and softly in order to minimize stress and to avoid cows being rushed through areas where muck could cause excessive udder soiling.
- Milking equipment should be kept meticulously cleaned and should be regularly checked for correct functioning to avoid physical teat damage. Over-milking should also be avoided in order to protect the health of teat and udder.

- Field and cow track conditions must also be taken into account: excessively wet or muddy conditions will increase the potential for udder soil and teat infections.
- In large dairy herds, milking facilities might include sprinkler pens where groups of 80 to 120 cows are washed. After that provide the adequate time for drip drying, it is essential that the teats and udders are thoroughly dried before the cows enter the milking parlour.
- The application of pre-milking teat dip decreases the incidence of mastitis about 50%. The suggested procedures for pre-dipping are as follows: first, clean the teats, predip them with fore strip allow for the recommended contact time, which is typically between 20 to 30 seconds. After that, dry the teats using a separate paper towel to eliminate any residue, and then attach the milking units.

### Conclusion

Mastitis is not just a disease—it is an indicator of farm management health. While it remains a significant challenge within the dairy industry, it is also an opportunity to improve practices, adopt innovative solutions, and build a more resilient, profitable and successful dairy sector.

Bovine mastitis can be successfully managed with prompt detection, appropriate treatment, and proper prevention measures, guaranteeing improved milk quality, animal welfare, and farmer prosperity.



# Government Strengthens Rural Economy with Dairy Reforms During Past Two and a Half Years

Himachal Pradesh has become the first state in India to offer Minimum Support Price (MSP) on milk, which has set a new benchmark in the country's dairy sector. This bold and revolutionary move reflects a strong commitment of the present state government to support livestock farmers and enhance rural livelihoods. Over the past two and a half years, the government has introduced several impactful reforms towards empowering dairy farmers and strengthening the co-operative institutions, besides building a resilient rural economy.

As of today, the Government is procuring cow milk from approximately 38,400 farmers, collecting an average of 2.25 lakh litres milk daily at a support price of Rs. 51 per litre, based on quality standards. Additionally, about 1,482 buffalo rearers contribute 7,800 litres of milk per day, which is purchased at Rs. 61 per litre. These rates provide assured income to livestock rearers and reflect a significant improvement over previous procurement mechanisms.

To ease logistical challenges, especially in hilly and remote regions, the government is also providing Rs. 2 per litre transport subsidy for dairy farmers. It is expected to benefit a large number of producers. It is improving farmer's access to markets and also reducing

transportation costs for marginal farmers.

One of the most ambitious undertakings of the state is the Him Ganga Yojana, which aims to transform dairy farming at the grassroots level. Under the first phase of the Him Ganga Yojana, a dedicated committee has been formed to visit villages and establish milk producer co-operative societies at the grassroots level. As part of this initiative, 268 new dairy cooperatives have been formed in Hamirpur and Kangra districts. Out of these, 11 societies in Hamirpur and 99 in Kangra have already been officially registered. In Hamirpur, out of 46 newly formed societies, 20 are women-led dairy co-operatives which show the focus of the state government on empowering rural women. In Kangra, a total of 222 dairy co-operatives have been established. So far, 5,166 farmers have been linked to these societies, ensuring their direct participation in organized milk production and marketing.

In another pioneering initiative, the government has launched a pilot project for goat milk procurement. Under this initiative, the government is offering Rs. 70 per litre to goat rearers. Presently, 100 litres of milk is being purchased per day from 15 goat rearers.

To further incentivize the functioning of milk cooperative

societies, the government has doubled the transport subsidy from Rs 1.50 to Rs 3 per litre, and societies are drawing benefit from this provision. The initiative covers all milk cooperative societies registered under the Societies Registration Act, 1860 and the Himachal Pradesh Cooperative Societies Act, 1968. The estimated annual expenditure for this is around rupees six crore, a figure likely to rise as more societies join the scheme.

Chief Minister Thakur Sukhvinder Singh Sukhu said that the dairy reforms of the present state government go beyond mere production figures. It is about creating a sustainable ecosystem that values farmers, ensures quality and fosters inclusive growth. He said that with a clear focus on improving farm incomes, empowering women and strengthening co-operative structures, the state government has taken significant steps toward rural transformation.

He said that as the state continues its journey towards becoming a self-reliant rural economy, the dairy sector stands as a shining example of what committed governance and grassroots engagement can achieve. Himachal's model not only ensures economic dignity for its farmers but also inspires other states to re-imagine their rural development strategies.

# Workshop on Sustainable Dairy Practices Organized at COVS, Rampura Phul



The Department of Veterinary Physiology and Biochemistry, College of Veterinary Science, Guru Angad Dev Veterinary and Animal Sciences University (GADVASU), Rampura Phul, successfully organized a one-day workshop on the theme **“Sustainable Dairy Practices for Enhanced Profit Margins.”**

The event was held on June 18, 2025, with participation from 20 dairy farmers from nearby villages including Bhunder, Phul, and Pitho.

The primary objective of the workshop was to enhance the knowledge and skills of local dairy farmers in adopting sustainable and economically viable dairy farming practices. The event commenced with a brief introduction outlining the

purpose of the training and the key theme to be addressed, delivered by Dr. Ravindra Kumar, Professor, Department of Veterinary Physiology, who emphasized the importance of integrating sustainable techniques to improve productivity and profitability.

The workshop featured expert lectures by Dr. Yashwant Singh, Dr. Amit Sharma, Dr. Neeti Lakhani, and Dr. Subhash Chander from the College of Veterinary Science, Rampura Phul. These experts delivered talks on various critical aspects of dairy farming, including animal nutrition, herd health management, reproductive efficiency, and environmentally sustainable practices, aiming to equip farmers with practical knowledge to enhance dairy

profitability.

The workshop was held under the guidance and support of **Dr. Digvijay Singh**, Dean, College of Veterinary Science, Rampura Phul, who served as the patron of the event. In his address, Dr. Singh highlighted the pivotal role of veterinarians in supporting farmers to achieve better returns through scientific dairy farming. He further emphasized the importance of **technological adoption** in dairy farms and informed about increase in **milk production in Sahiwal cattle** through better management, nutritional interventions, and the use of data-driven approaches.

The Vice-Chancellor of Guru Angad Dev Veterinary and



Animal Sciences University, **Dr. J.P.S. Gill**, appreciated the initiative and congratulated the organizing team for their dedicated efforts in reaching out to the farming community. He reiterated the university's commitment to promoting farmer-oriented programs for sustainable livestock development.

The organizers, Dr. Ravindra Kumar and Dr. Rachana Sharma, along with Dr. Sandeep Kaswan, who served as the technical coordinator of the event, expressed their heartfelt gratitude to all dignitaries, expert speakers, and participating farmers for their enthusiastic involvement and support, which contributed to the grand success of the workshop.

**GURU ANGAD DEV VETERINARY AND ANIMAL SCIENCES UNIVERSITY**  
**COLLEGE OF VETERINARY SCIENCE, RAMPURA PHUL**  
 &  
**HUVEPHARMA**  
 Organizes  
**Workshop on**  
**"Sustainable Dairy Practices**  
**for Enhanced Profit Margins"**  
**JUNE 18, 2025** **9:30AM**  
 Dept. of Veterinary & Animal Husbandry Extension  
 Education  
**Chief Patron**  
**Dr. J. P. S. Gill**  
 Vice Chancellor  
**Patron**  
**Dr. Digvijay Singh**  
 Dean, COVS Rampura  
 Phul  
**Organizers**  
**Dr. Ravindra Kumar**  
**Dr. Rachana Sharma**  
**Technical Coordinator**  
**Dr. Sandeep Kaswan**



# Under The Viksit Krishi Sankalp Abhiyan, Union Agriculture Minister Shri Shivraj Singh Chouhan is in Charge of Outreach Across The Country.



Union Minister of Agriculture and Farmers' Welfare, Shri Shivraj Singh Chouhan, is leading the ongoing Viksit Krishi Sankalp Abhiyan (VKSA), launched on **29 May 2025 from Puri, Odisha**. The 15-day national campaign, concluding on **12 June**, aims to bridge the gap between scientific research and grassroots agriculture by reaching over **1.5 crore farmers** across **700+ districts** with the support of **16,000 agricultural scientists** and **2,170 interdisciplinary teams**.

#### Major Highlights of the Minister's Visits

##### 1. Bhubaneswar, Odisha (29 May 2025)

Shri Chouhan inaugurated the VKSA in the presence of Odisha Chief Minister Shri Mohan Charan Majhi. Addressing the gathering, he stated:

*"The campaign will promote*

*modern technologies, soil health, natural farming, and crop diversification, ensuring food security and full reserves for the nation."*

He also announced the deployment of 2,170 expert teams to assist farmers with crop selection, seed varieties, fertiliser use, and sustainable agricultural practices, with an emphasis on science-led interventions for enhancing productivity and incomes.

##### 2. Jammu & Kashmir (30 May 2025)

The Minister highlighted the vital role of farmers living in border regions, describing them as the second line of defence. Terming the courage of farmers as unmatched he said that despite facing constant danger farmers continue to cultivate the land and feed the nation.

VKSA bringing Prime Minister Shri Narendra Modi's vision of "Lab to Land" into action: Shiv Raj Singh Chouhan

VKSA plays vital role in advancing goals of developed agriculture: Shri Chouhan

Shri Chouhan addressed a large gathering of farmers during a convention held under the VKSA, reinforcing the government's commitment to inclusive and region-specific agri-development.

##### 3. Panipat, Haryana (31 May 2025)

On the third day of the campaign, Union Minister of Agriculture and Farmers' Welfare, Shri Shivraj Singh Chouhan, interacted with farmers in Panipat, Haryana. During his main address, he shared this experience, stating that programmes related to farmers are incomplete without



visiting the fields.

"I try to live the life of a farmer. I am a farmer's son. I drive a tractor and also do the sowing myself." – Shri Chouhan

"Agriculture is the backbone of India's economy; without farming, the identity of Hindustan is incomplete." – Shri Shivraj Singh

"Even if the production increases by just one quintal per hectare, the total Kharif crop production will increase by 20 million tonnes." – Shri Chouhan

#### 4. Meerut, Uttar Pradesh (1 June 2025)

The Union Agriculture Minister interacted with farmers in Dabthua village of Meerut and then held discussions with farmers sitting on a cot in Jangethi village. Talking to the media on this occasion, Shri Shivraj Singh Chauhan said that we have come to talk to the farmers as a team along with agricultural scientists.

The goal of 'Viksit Krishi Sankalp Abhiyan' is to increase production, reduce costs, give the right price for the produce and take appropriate measures to prevent losses to the farmers: Shri Chouhan

#### 5. Motihari, Bihar

At the historic Gandhi site in Piprakothi, Shri Chouhan

announced ₹6 crore worth of upcoming agricultural projects at the local KVK. He commended the KVK's proactive role and remarked:

*"Our government has directly linked agricultural scientists with farmers to promote modern techniques and enhance productivity."*

#### 6. Pune, Maharashtra (3 June 2025)

*Shri Shivraj Singh Chauhan interacted with farmers at the Krishi Vigyan Kendra (KVK) at Narayangaon Taluka in Pune and visited Narayangaon Agriculture Produce Market Committee (APMC) and Tomato Market, local farm fields and a cold storage facility along with agricultural scientists, where he interacted with local farmers*

*growing tomatoes and other farm products.*

Government is moving towards enacting a strict law for taking action against any company or person making fake fertilizers or pesticides and supplying those to farmers: Shri Shivraj Singh Chouhan

"Agriculture scientists have to visit fields and interact with farmers to guide them as per the needs of their fields and produces: Shri Chouhan"

#### 7. Patiala, Punjab (5 June 2025)

During a Kisan Chaupal, the Minister interacted directly with farmers, encouraging farmer-led policy feedback and praising the adoption of direct-seeded rice and stubble-free farming. He emphasized:

*"Policies will now be shaped by inputs from farmers—not by bureaucrats."*

*The Green Revolution Freed Us from the Need to Consume Poor-Quality Grains – Shri Shivraj Singh Chouhan*

*Discussing modern techniques, Shri Chouhan underlined the benefits of direct seeding of paddy (DSR) as a water- and cost-efficient alternative to traditional transplanting methods. He shared farmers' feedback that the yield remains consistent while*





*significantly reducing labour and input costs. The Minister also stressed the importance of balanced pesticide use, noting that excessive application not only raises costs but also adversely affects crop quality.*

He also underscored the principles of cooperative federalism and sustainable water management.

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#### **8. Dehradun, Uttarakhand (6 June 2025)**

Shri Chouhan accentuated that the quality of Uttarakhand's fruits, grains, and vegetables is exceptional and has the potential for global recognition.

*"The sacred land of Uttarakhand brings renewed energy to the mind, intellect, and spirit: Shri Chouhan"*

He further emphasized that greater focus will be placed on promoting natural farming, encouraging technological

innovation, and advancing water conservation efforts to enhance the profitability and long-term sustainability of agriculture.

Emphasizing the importance of grassroots engagement, he stated that he had chosen to visit the fields and interact with farmers directly to assess the on-ground implementation of government schemes. Such direct dialogue is essential to ensure the active and empowered participation of farmers in the development process, he added.

In the first ministerial visit in a decade to the ICAR-Central Citrus Research Institute, Shri Chouhan chaired a critical review meeting. He urged scientists to support the pre-Kharif campaign stated:

*"Technology-driven, farmer-centric solutions are essential for increasing incomes in citriculture. Emphasis must be placed on export-quality seed development and value addition."*

#### **9. Bhopal, Madhya Pradesh (7 June 2025)**

Countering political narratives, Shri Chouhan clarified the campaign's scientific intent:

*"The government is working with the spirit of 'One Nation, One Agriculture, One Team'. Scientists must move beyond labs into the fields. This year's record production of wheat, paddy, soybean, groundnut, and maize is a testament to our collective efforts."*

#### **10. Bengaluru, Karnataka (8 June 2025)**

At the ICAR-Indian Institute of Horticultural Research, the Minister addressed 500 farmers, visited field demonstrations, and participated in a technology exhibition.

He advocated for demand-driven research based on farmer feedback, and stressed the need for sustainability and scientific advisory systems in farming.

#### **11. Telangana, Hyderabad (9 June 2025)**

The Minister commenced his visit in Telangana's Ranga Reddy district, engaging directly with farmers in Mansonpally village. This was followed by a Kisan Chaupal (farmers' forum) in Ramachandraguda village, where farmers highlighted the significant improvements in their production and income attributed to the adoption of diversification and integrated farming practices. Concluding the interactions, Shri Chouhan addressed the farming community at a program organized in Mangalpally, Ibrahimpatnam.

Under the leadership of PM Shri Narendra Modi, continuous efforts are being made for agricultural advancement – Shri Shivraj Singh

Tomato, potato, and onion farmers will benefit from the Market Intervention Scheme (MIS) – Shri Chouhan



# Gyandhara

Badhiya Wala Pashu Aahar



Ritu Agarwal, Managing Director, Gyandhara Industries.

## A COMPANY THAT HAS EVOLVED FROM SUPPORTING GYAN DAIRY TO BECOMING A SIGNIFICANT FORCE IN THE REGIONAL FEED INDUSTRY, TRULY REVOLUTIONIZING THE SECTOR.

Gyandhara Industries began as a captive feed solution specifically designed for Gyan Dairy, with the primary goal of providing high-quality cattle feed to their network of milk suppliers. This strategic initiative quickly gained substantial traction as farmers observed tangible improvements in both the productivity of their livestock and their overall animal health. What started as an essential internal support system soon expanded successfully into the open market, allowing Gyandhara to establish itself firmly as one of Uttar Pradesh's leading cattle feed manufacturers, supported by a robust and efficient distribution network.

### ROOTED IN RURAL WISDOM, BUILT ON SCIENCE



Gyandhara's philosophy is deeply rooted in a profound respect for dairy farmers, operating on the guiding principle of "**Achha Aahar, Achha Utpadan**" (**Good Feed, Good Output**). They meticulously develop feed variants that are precisely tailored for both buffalo and cow dairying practices prevalent in Uttar Pradesh and Bihar. Their formulations are carefully balanced in terms of TDN (Total Digestible Nutrients), protein, fat, and essential micronutrients. These formulations are specifically designed to improve milk yield, enhance body conditioning, and optimize reproductive performance, thereby ensuring both the well-being of the animals and the profitability for the farmers.



### UNWAVERING COMMITMENT TO QUALITY & SAFETY

Quality and safety are paramount at Gyandhara, forming the bedrock of their operations. All products consistently meet BIS (Bureau of Indian Standards) compliance and are rigorously aflatoxin-controlled. Their unwavering commitment to quality is further reinforced by the advanced analytical techniques employed, including the use of NIR (Near-Infrared) machines and MPAES (Microwave Plasma Atomic Emission Spectroscopy) technology for comprehensive heavy metal testing. This dedication to excellence has earned the trust of countless farmers and channel partners alike.

Currently, their state-of-the-art Sandila plant produces 500 MT per day. To effectively meet the ever-growing demand, they are launching a new, cutting-edge 1000 MT/day plant in Trishundi, Sultanpur, which will be equipped with advanced automation and sophisticated traceability systems. This significant expansion will increase their total production capacity to an impressive 1500 MT per day, strategically positioning them among the largest integrated cattle feed producers in northern India.

### ENABLING, NOT JUST SELLING

Gyandhara truly stands out through its profound focus on education and empowerment, going beyond mere sales. They actively engage with farmers through impactful on-ground programs, timely WhatsApp advisories, and innovative initiatives such as Gyandhara Manthan, all aimed at simplifying complex feed science into easily understandable concepts. By diligently promoting balanced nutrition over fragmented feeding practices, Gyandhara effectively helps farmers unlock greater value and potential from their cattle.



“ What began as a solution for Gyan Dairy's internal supply chain has today become a purpose-driven movement. Our unwavering focus on quality, farmer trust, and science-backed nutrition continues to guide us every step of the way. ”

- Ritu Agarwal

### THE ROAD AHEAD

With a turnover exceeding ₹300 crores and an expanding presence across Uttar Pradesh, Bihar, and various parts of eastern India, Gyandhara has far surpassed its initial mandate as a captive feed solution. They continue to operate with the unwavering goal of providing high-quality, dependable nutrition to every dairy farmer, a mission that is consistently backed by sound scientific principles, unwavering integrity, and genuine care.

Gyandhara is immensely proud to carry forward the deep-seated trust that forms the fundamental foundation of the dairy world - the vital bond between farmer and cattle, the confidence between brand and market, and the harmonious blend of tradition and innovation.



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## Georgia Farmers Approve Higher Levies to Support Dairy Education Initiatives

According to a Georgia Department of Agriculture statement, Georgia dairy farmers approved two statewide initiatives to boost financing for dairy research, marketing, and education.

In order to fund initiatives run by the Georgia Agricultural Commodity Commission for Milk (GA ACCM), dairy producers will continue to receive 10 cents for every 100 pounds of milk they sell. A whopping 98% of producers supported this fee.

These initiatives support The Dairy Alliance's marketing initiatives and the Georgia Mobile Dairy Classroom. A 30-foot trailer with a live cow

and a fully functional milking parlour is part of the mobile classroom. The milking process provides hands-on learning opportunities for students of all ages. To encourage dairy consumption, The Dairy Alliance collaborates with communities, schools, and athletes.

In order to support the activities of Georgia Milk Producers, Inc., their decision also establishes a new minor tax that producers must pay: 2.5 cents for every 100 pounds of milk. 92% of producers cast ballots in favour of this charge, another resounding majority.

In addition to leading the charge in planning the Georgia Dairy Conference, the biggest dairy event in the Southeast, the Georgia Milk Producers intend to hold instructional workshops and expand their public awareness campaigns.

At its meeting in Perry on June 24, the GA ACCM certified the vote results. Georgia's economy benefits from the dairy industry annually to the tune of over \$3.4 billion. Georgia is the top milk-producing state in the Southeast, according to the U.S. Department of Agriculture.

# Gujarati Corruption and Illicit Dairy Operations are Revealed by BJP Infighting

Internal divisions within the BJP have started to show themselves in the form of infighting, corruption, and violent altercations at leading dairies, causing a storm to rage over Gujarat's influential cooperative dairy industry.

The state's milk cooperatives have a long history of political and financial decay, which is being exposed by scandal after scandal from Baroda to Mehsana to Surat.

The most recent flashpoint is Sumul Dairy in Surat, where accusations that milk from Maharashtra was being illegally procured, blended, and marketed through local cooperative societies have erupted into a bitter power struggle between Chairman Mansingh Patel and Vice Chairman Raju Pathak.

Dairy sources claim that after Pathak allegedly attempted to attack the MD during a contentious board meeting, the problem—which had begun with fines levied against milk importers—became more serious.

Jayesh Patel (Delad), the director of Sumul Dairy, told *The New Indian Express* 25 cooperative societies from the Surat and Tapi districts were found to have illegally imported milk from Maharashtra, stored it in chilling facilities, and then transported it to Sumul Dairy via unregistered centres. These milk companies were fined Rs 3.25 crore by Sumul.

The matter has now escalated into a full-fledged political crisis as the Congress enters the fray. In a letter to the Chief Minister, Surat Congress leader Darshan Nayak accused the Sumul board of

corruption and called for action against registered societies that mixed cold, imported milk with warm, domestic supplies. Citing past claims of wrongdoing at Sumul Dairy worth crores, he has also demanded an immediate quality audit and board censure.

The upper command of the BJP has taken notice. According to sources, Sumul's chairman and vice chairman have been called to Gandhinagar by the party leadership.

Orders have been issued to audit the rogue societies and prosecute those found to be in violation of the standards for milk sourcing. The milk auditor's job is to look into purchasing centres and chilling plants that aren't following the law.

BJP MLA Ketan Inamdar discovered a financial scam at Baroda Dairy where milk was being placed in the identities of people who had passed away. He sent letters to high-ranking officials, such as the Chief Minister and the Cooperation Minister, which led to an internal investigation and the resignation of the MD, Ajay Joshi.

On June 27, a board meeting at Mehsana's Dudhsagar Dairy descended into violence after Vice Chairman Yogesh Patel accused Chairman Ashok Chaudhary of slapping him during a contentious debate about the stock of expired milk powder.

The chairman was forced to address the media when Patel disclosed the next day that there were significant amounts of spoilt powder at the dairy's Charada godown. According to sources, this conflict stems from a power struggle between two powerful BJP figures in Mehsana, who are purportedly supported by a state minister and a senior BJP organisational official.

Cooperative dairies, which were formerly viewed as catalysts for rural prosperity throughout Gujarat, are now tainted by factional politics, corruption, and violent infighting, which is indicative of the BJP's own internal divisions. The legitimacy of the dairy industry and the ruling party's hold on it are being closely examined as the state administration tries to contain the damage.



## The Centre Wants To Change The Dairy and Fishing Industries In Jammu and Kashmir and Has Earmarked Rs 300 Crore Under PMMSY



The Union Government has announced a big effort to expand Jammu and Kashmir's dairy and fisheries industries, spending Rs 300 crore under the Pradhan Mantri Matsya Sampada Yojana (PMMSY) and looking into a further Rs 100 crore Integrated Aqua Park for cold-water aquaculture development in the region. The announcements came during Union Minister for Fisheries,

Animal Husbandry, and Dairying Rajiv Ranjan Singh's two-day visit to the Union Territory, during which he interacted with farmers, assessed sectoral developments, and inaugurated critical facilities. The Union Minister said that programs like PMMSY, the Blue Revolution, and the Fisheries and Aquaculture Infrastructure Development

Fund (FIDF) have drastically changed the fisheries ecosystem in J&K while speaking to a group of officials, scientists, and farmers at the Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir (SKUAST-K). In order to empower small and marginal dairy farmers—particularly women, who account for more than 70% of the dairy

sector's participation nationwide—he advocated for the building of cooperatives at the district, block, and panchayat levels.

In India, more than 10 crore farmers rely on livestock, and small and marginal farmers own 90% of the dairy animals. According to Singh, milk output in Jammu and Kashmir increased by 47 percent, from 19.50 lakh tonnes in 2014–15 to 28.74 lakh tonnes in 2023–24. There are currently 413 grammes of milk available per person every day.

Singh's focus on Kashmiri trout and speciality dairy products highlighted the Center's attention on value addition and export preparedness. He highlighted recent achievements, pointing out that J&K's trout production increased by more than 800 percent, from merely 262 metric tonnes in 2013–14 to 2,380 metric tonnes in 2023–24. During the same time period, carp seed output increased from 40 million to 63.5 million units, while trout seed production increased from 9 million to 15.2 million units. Since 2020, trout output has more than tripled thanks to the Government of India's facilitation of the importation of 13.4 lakh genetically enhanced eyed ova of

Rainbow and Brown Trout from Denmark in order to improve seed quality. Through FIDF, more than Rs 120 crore in private investment has been made in cold-water fisheries.

With Kulgam and Shopian as partner districts, the Ministry has named Anantnag a Cold-Water Fisheries Cluster in recognition of its biological value. The establishment of an integrated value chain with the goal of establishing sustainable livelihoods is anticipated to benefit the cluster. Singh added that in order to provide an example for the holistic development of aquaculture in the Himalayas, the Union Government is currently considering building an integrated aqua park worth Rs 100 crore under PMMSY Phase-II.

Singh officially opened a 50,000-liter Ultra High Temperature (UHT) milk processing facility at Satwari, Jammu, at a high-level review meeting at the Civil Secretariat that he co-chaired with Chief Minister Omar Abdullah of Jammu and Kashmir. He urged the J&K Government to work with him to turn unrealised potential into economic results and reaffirmed the Center's "unwavering commitment" to rural empowerment.

The Union Minister later toured high-density apple orchards and research booths at SKUAST-K, including one that showcased India's first gene-edited sheep, a development Singh said put the nation in the forefront of animal genome editing. He spoke with Poshu Sakhis, dairy and fisheries business owners, and SKUAST-K faculty members, hearing their problems and recommendations.

Javid Ahmad Dar, the Minister of Agriculture Production and Panchayati Raj for J&K, praised the Centre for its assistance and advocated for a greater emphasis on livestock processing and value addition. SKUAST-K Vice Chancellor Professor Nazir Ahmad Ganai lectured the audience on the university's research focus and farmer connections, while Principal Secretary Shalendra Kumar provided a summary of the industry.

Top officials like as Union Secretary for Fisheries Alka Upadhyay, Animal Husbandry Commissioner Abhijit Mitra, and Joint Secretary for Fisheries Sagar Mehra attended the event, which had as its topic "Reimagining Livestock & Fisheries with Future Ready Farmers: Vision 2030."

# US, INDIA Seek for Tariff-Reducing Trade Pact Amid Ongoing Dairy and Agriculture Issues



US and Indian trade negotiators were seeking to finalise a tariff-reduction agreement before President Donald Trump's July 9 deadline, but crucial differences over US dairy and agricultural exports remained unresolved, according to Reuters sources.

This happened after Trump announced an agreement

with Vietnam to reduce US duties on numerous Vietnamese imports to 20%, down from his previously promised 46%. Trump said that US items could enter Vietnam duty-free, but details were scarce.

Trump has also threatened to impose a 26% levy on Indian imports as part of his April 2 "Liberation Day" reciprocal

duties, which were temporarily reduced to 10% to allow for negotiations.

According to Reuters, India's Commerce Ministry reported that a trade delegation from India remained in Washington for a week after arriving for discussions last Thursday and Friday.

## Amul Introduces Milk In Spain, Plans to Extend to Other Regions Of The EU Soon

and Barcelona first, followed by Malaga, Valencia, Alicante, Seville, Córdoba, and Lisbon, Portugal. According to an official statement released here on Wednesday, Amul also intends to introduce milk and other products in nations like Germany, Italy, and Switzerland in



On Wednesday, the Gujarat Co-operative Milk Marketing Federation Ltd. (Amul) declared that Amul milk would be available in the Spanish cities of Madrid and Barcelona. According to the Gujarat-based cooperative, it will eventually spread to Portugal, Germany, Italy, and Switzerland, among other European Union countries.

Additionally, GCMMF stated that it would be launching Amul Milk in Spain and the rest of the European Union in collaboration with Cooperativa Ganadera del Valle de los Pedroches (COVAP), Spain's first-tier cooperative. Dinesh K. Patnaik, India's ambassador to the Kingdom of Spain, and D. Fernando Heredia Noguera, the deputy director for international relations and community affairs for the Spanish Ministry of Agriculture, Fisheries, and Food, were among those in attendance at the official launch of Amul milk in Spain, which took place at the Embassy of India in Madrid.

Amul Milk will be introduced through this agreement in Madrid

the future.

In a statement, Jayen Mehta, Managing Director of Gujarat Milk Marketing Federation (GCMMF), the company that owns the Amul brand, stated, "We are extremely honored and happy to join forces with COVAP, a highly regarded Spanish dairy cooperative. This partnership will guarantee that the goodness of Amul Milk will nourish and energize all of our Spanish customers. Amul fresh milk is being introduced in Europe for the first time.

COVAP is Spain's first-tier cooperative, established in 1959 in Pozoblanco, Córdoba. COVAP, which has over 2,000 active farmer members, is a key player in Andalusia's agri-food sector. Their dairy factory, one of Europe's most modern, processes around 400 million liters of milk every year. COVAP exports to more than 30 nations, including the United States, the United Kingdom, and several Asian markets.

COVAP President Ricardo Delgado Vizcaíno stated that the cooperation with Amul will help build their brand in Spain, benefiting not just their own dairy farmer members but also those in India. The relationship combines COVAP technology capabilities and high-quality milk with the Amul brand's fast developing and internationally recognized reputation for luxury dairy products.

## At The 18th Global Dairy Congress, Yili Wins Four World Dairy Innovation Awards

The Global Dairy Congress 2025 took place in Amsterdam from June 18 to June 19. During the forum, Yili Group Assistant President Dr. Ignatius Szeto gave a keynote address titled "Innovating for a sustainable future" and discussed the company's most recent creative methods.

The 2025 World Dairy Innovation Awards winners were announced by the organizers on the first day of the event. Yili received six commended awards and four World Dairy Innovation Awards. Interestingly, Yili has won the World Dairy Innovation Awards six times in a row.





The head of the Yili Innovation Center Europe, Dr. Carolien van Loo, participated in a roundtable discussion on research on breast milk and nutrition for mothers and infants. As the Congress's officially recognized products, many star products from Pro-Kido, the leading infant formula brand in Yili, were highlighted.

Dr. Ignatius Szeto presented Yili's global innovation techniques in product innovation, improved dairy processing, maternal and infant nutrition, and sustainable development in a methodical manner at the Industry Leadership Forum. He underlined: "The dairy industry's sustainable prosperity is fueled by innovation. Yili continues to be consumer-focused, focuses on nutrition and health research throughout the whole life cycle, continues to develop key technologies, and expedites the commercialization of basic research findings—all of which help the global dairy industry grow."

Dr. Ignatius Szeto and Dr. Carolien van Loo participated in in-depth conversations with specialists such as Richard Hall, Chair of FoodBev Media, and Jean-Christophe Kremer, Secretary-General of the International Special Dietary Foods Industries, during the roundtable

forum with the theme "Innovation in Pioneering a New Future for Global Maternal and Infant Health." Research on breast milk and the nutrition of mothers and infants was the main topic of debate. Dr. Carolien van Loo emphasized that Yili Innovation Center Europe has carried out groundbreaking research on HMOs in partnership with organizations like Wageningen University and the Donders Institute for Brain, Cognition, and Behavior. Their ground-breaking research showed how HMOs improve immunity, safeguard the integrity of the gut barrier, stop pathogen adherence, and foster cognitive growth.

At the ceremony, the yearly World Dairy Innovation Awards were revealed. Yili Group won four honors this year for its superior products and exceptional innovation performance. Joyday Crunchy Choco Lava won Best Ice Cream, Yili's proprietary multi-enzymatic lactose-to-GOS technology earned Best Artisan Product, and Zhenlao Light Cream from Yijiahao Cheese received Best Artisan Product: Satine Carbon-Reduced Organic Milk took home the Best CSR/Sustainability Initiative award, while Qinghuo Adult Milk Powder's "Boosting Gut Health"

earned Best Intolerance-Friendly Innovation.

In keeping with its motto, "No Innovation, No Future," Yili keeps raising its R&D expenditures in order to offer clients complete nutrition solutions for all stages of life. In Asia, Europe, and Oceania, Yili has so far set up 15 innovation centers.

With the goal of enabling the dairy industry's sustainable prosperity, Yili will keep adjusting its approach to meet the needs of its customers, promoting global alliances, and driving expansion through technical innovation in order to provide consumers across the world with improved health value.

## Beesley International Welcomes The Sales Director For Dairy And Ventilation

Brett Zickert has been appointed as the new director of sales for ventilation and dairy products at Beesley International. With over 30 years of dairy business experience, Zickert delivers extensive knowledge and a strong enthusiasm for cow-comfort barn design, including ventilation options, retrofits, and new construction.

Beesley International has expanded into the dairy and agricultural ventilation product markets with Zickert's appointment. The business currently sells a range of dairy goods, from headlocks to ventilation systems.

Prior to this, Zickert worked as a dairy ventilation and barn solutions specialist at Redeker Dairy

Welcome

# TO THE TEAM



Brett Zickert



Director of Sales for Dairy & Ventilation

Equipment from 1996 to 2010 and Agromatic Inc. from 2010 to 2024. He has experience in both bespoke harvesting and cash crop farming.

Our customers and team will greatly benefit from Brett's unparalleled experience in the dairy industry as well as his practical understanding of ventilation and barn construction. Beesley International's general manager is John Hill. His knowledge of the dairy sector and solid experience in product development and sales are a wonderful fit with our goal of offering creative, farmer-focused solutions.

Beesley International serves the dairy and poultry industries with innovative, superior products and services from its headquarters in Gainesville, Georgia. The company was founded in 1955 by Hank

Beesley, a pioneer, innovator, and businessman who sold a range of goods to distributors of poultry supplies that are now considered standard. Beesley International keeps coming up with fresh, creative methods to update outdated technology and modify products for these dynamic markets.

## How Canada's Dairy Cartel Keeps Sabotaging Our Overseas Trade Negotiations



Parliament has just solidified the one issue that has sabotaged more trade agreements than anything

else, despite Canada's deliberate efforts to increase its trade with the non-US world.

The 45th Parliament's first law, which was enacted this week, was ultimately a proposal supported by Bloc Québécois to protect Canada's supply management system from any discussions over international trade.

The Senate approved Bill C-202 on Wednesday, prohibiting the Department of Foreign Affairs from negotiating any trade agreement that would allow foreigners to access Canada's highly tariffed dairy and egg industry.

Despite being presented as a benefit to the nation's 9,000 dairy farms, the law has been criticized by trade economists and other Canadian farmers for potentially impeding Canada's capacity to expand its international trade connections.

The bill was criticized by the Grain Growers of Canada, who said that it scares away potential trading

partners just when Canada needs to find more. "The outcome will be less ambitious trade agreements,

fewer export opportunities, and slower economic growth at home for grain farmers who depend on access to international markets," the group's executive director, Kyle Larkin, said in a statement on Wednesday.

C-202 was similarly presented by the Canadian Agri-Food Trade Alliance (CAFTA) as interfering with Canada's "accelerated trade diversification agenda."

At least one significant Canadian trade agreement has fallen through as a direct result of supply management, and talks on numerous others have been delayed.

The United Kingdom withdrew from bilateral trade negotiations with Canada in January 2024 because Ottawa would not accept higher imports of British cheese or make concessions on supply management.

One of the most noticeable obstacles to the now-canceled Trans-Pacific Partnership was Canada's refusal to grant full trade access to its dairy industry during the 2015 discussions.

Canada was attempting to reach a deal that "doesn't include market access," as stated by U.S. negotiator Darci Vetter at the time.

Only until Canada agreed to liberalize European access to the Canadian dairy market, at the expense of billions of dollars in compensation provided to dairy producers, was a trade agreement reached with the European Union in 2016.

Supply management, which was first put in place in the 1970s under the administration of then-prime minister Pierre Trudeau, essentially operates as a state-run cartel for the production of dairy, poultry, and eggs.

Centralized marketing boards, who

also establish quotas governing the amount of produce that each farm is permitted to produce, have the authority to fix prices for all supply-managed goods. Any excess produced beyond the quota must be disposed of. This typically amounts to several hundred million liters of milk that are dumped annually in the dairy industry alone.

Without a rigorous import quota and prohibitive tariff program, supply management is impossible because the system's main goal is to maintain artificially high prices by limiting the quantity of goods that can enter the Canadian market.

To import cheese or dairy products from overseas, a grocer must apply for a specific import permission, which is then subject to strict limitations. With rates of at least 200 percent, goods that do not meet the quota are subject to among of Canada's harshest levies.

In addition to being a persistent annoyance during trade talks, the system consistently puts Canada in international trade battles, frequently for which it loses.

The Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), an 11-nation free trade agreement primarily composed of Pacific Rim

countries, was joined by Canada in 2018.

The first significant trade issue under the pact would almost immediately target Canada, as New Zealand criticized Ottawa for not approving dairy import quotas.

Although it could keep its supply management system, Canada was permitted to join the CPTPP on the condition that it grant the other signatories favorable dairy import quotas.

Economist Daniel Schwanen of the C.D. Howe Institute cautioned in Senate testimony last November regarding a previous version of Bill C-202 that any further entrenchment of supply management would come at the expense of impeding the "99 percent" of the Canadian economy that does not fall within a supply managed industry.

## On Mission Mode, CM Instructs The Formation of Dairy Cooperative Societies

SHIMLA – June 19th, 2025 Chief Minister Thakur Sukhvinder Singh





Sukhu, while chairing a high-level meeting of the Animal Husbandry Department here today, instructed the establishment of dairy cooperative societies across the state on a mission basis. To increase dairy production, these organizations could play an important role in offering job and self-employment options for young dairy workers. He stated that dairy cooperative societies are currently operational in 910 panchayats, and that the department should work hard to expand the number of functioning organizations.

After reviewing the work progress of the Dagwar Milk Processing Plant in Kangra area, he instructed the formation of a committee to oversee and speed the process. He stated that the State Government was building a milk processing factory with a capacity of 1.50 lakh litres per day at a total cost of Rs. 225 crore. He stated that the plant was projected to be finished by June 2026, benefiting farmers in Kangra,

Una, Hamirpur, and Chamba districts.

Sh. Sukhu stated, "The current State Government is making serious efforts to strengthen the rural economy." We aim to increase the income of dairy farmers, hence the State Government increased the MSP to Rs. 51 per liter for cow milk and Rs. 61 per litre for buffalo milk." He stated that the government's efforts had resulted in a 17 percent increase in MILKFED milk procurement over the last three years.

The State Government was considering establishing six new milk processing and chilling plants in Jhalera in Una district, Jhaladi in Hamirpur district, Nahan in Sirmaur district, Mohal in Kullu district, Nalagarh in Solan district, and Rohru in Shimla district at a cost of Rs. 120 crore, he said. This would also help gather milk from farmers, boosting their economy.

In order to give farmers fair rates, Sh. Sukhu instructed the MILKFED

to market the "Him-Ghee" brand of "Pahari Cow Milk."

Managing Director MILKFED Vikas Sood, Principal Advisor to Chief Minister Ram Subhag Singh, Principal Secretary Finance Devesh Kumar, Secretary Animal Husbandry Ritesh Chauhan, Director Animal Husbandry Dr. Sanjeev Dhiman, Health and Family Welfare Minister Col. (Dr.) Dhani Ram Shandil, Animal Husbandry Minister Chander Kumar, MLA Chander Shekhar, and other senior officers were also present.

## The Climate-Smart Dairy Initiative Was Launched To Empower Smallholder Farmers

KBRN, Jakarta: To assist smallholder farmers in making the shift to mid-



Small-scale farmers, who typically own only two to four cows, produce more than 90% of that. They are also more susceptible to climate-related problems like decreased feed quality and scarce water supplies.

Construction and setup are anticipated to take two to three years until farms are fully operational, and the project's first expenditure is predicted to be close to 1 million euros, or roughly IDR 18.8 billion.

The next stage, which could require investments totaling hundreds of billions of rupiah, is to duplicate the idea over up to 100 farms around the country.

The program was hailed by Joost van Uum, Agriculture Counselor at the Dutch Embassy, as an illustration of how international development cooperation and public-private partnerships can provide real answers to global issues like climate adaption and food security.

Director of Veterinary Public Health at Indonesia's Ministry of Agriculture Nuryani Zainuddin was

scale, more stable-income production, PT Frisian Flag Indonesia (FFI), in partnership with SNV Netherlands Development Organization and Invest International, plans to build a number of climate-smart demonstration dairy farms.

In front of Agus Harimurti Yudhoyono, Indonesia's Coordinating Minister for Infrastructure and Regional Development, and Michiel Sweers, the Netherlands' Vice Minister of Foreign Trade and Development, Andrew signed the Memorandum of Understanding with representatives

from SNV and Invest International.

Nine climate-smart demo farms will be created as part of the project's pilot phase within cooperatives that are FFI's key partners.

In addition to receiving thorough training and mentoring, including on water efficiency and environmentally appropriate waste management, each farm will strive to have at least 30 dairy cows.

According to Andrew, the program addresses ongoing issues in Indonesia's dairy industry, where just 20% of the country's supply comes from locally produced fresh milk.

## Embracing Climate-Smart Agriculture

# EMPOWERING SMALLHOLDER FARMERS

also in attendance, and he praised the initiative as a tangible step toward enhancing smallholder welfare and modernizing the livestock industry in a way that is climate-resilient and sustainable.

## The Impact Of The Dairy Business On The US Economy Is Detailed In The IDFA Report.

Washington — In its most recent Dairy Delivers report, the International Dairy Foods Association (IDFA) highlighted the financial impact of the US dairy industry, stating that it supports over 3 million US jobs, pays \$198 billion in wages to American workers, and contributes nearly \$780 billion to the economy.

In collaboration with Brooklyn, New York-based economic research firm John Dunham & Associates, IDFA released the 2025 report, which also revealed that the US dairy business generated \$8.2 billion in total yearly exports.

"Dairy runs deep in every



community," according to the 2025 research, which was made public during National Dairy Month in June, said Michael Dykes, president and CEO of IDFA.

"Dairy supports livelihoods, sustains local economies, and delivers real value to the people who depend on it, from family-owned dairy farms to processors, retailers, and community businesses," Dykes stated. "These figures demonstrate the prevalence and significance of dairy in Americans' daily lives, which goes beyond economics."

Specifically, according to IDFA, the

dairy business supports 3.05 million employment in the United States, generating \$197.6 billion in wages and \$779.45 billion in economic effect. According to the research, the combined federal, state, and municipal taxes generated by the dairy business in the United States amount to \$83 billion.

Every two years, IDFA updates its Dairy Delivers data. Throughout National Dairy Month, the trade group stated, it will raise awareness of the industry's economic and social significance.

## Future Trade Concessions For The Dairy, Poultry, and Egg Industries Are Prohibited By New Legislation

The approval of Bill C-202, which guarantees security for supply-managed industries in future trade discussions, has Canadian dairy, poultry, and egg farmers jubilant. The first bill enacted in the current parliamentary session, the bill changes the Department of Foreign Affairs, Trade and Development Act,



passed the Senate on June 18 and is expected to get royal assent.

Ministers cannot agree to raise or lower tariffs on supply-managed goods, including as dairy, poultry, and eggs, during trade negotiations, according to Bill C-202. The goal of the law is to uphold Canada's long-standing policy of maintaining domestic control over certain areas, including import restrictions and price.

The Bloc Québécois introduced the measure, which was approved unanimously by the House of Commons before passing "with division" in the Senate. While Quebec's Union des producteurs agricoles referred to the law as a "necessary and legitimate protection" for producers, Bloc Leader Yves-François Blanchet praised it as a significant win.

Supply-managed organisations, including the Canadian Hatching Egg Producers, Dairy Farmers of Canada, Chicken Farmers of Canada, Egg Farmers of Canada, and Turkey Farmers of Canada, thanked all



lawmakers for passing the Act. "This resolute dedication enables Canada to sustainably grow its agri-food exports while preserving food sovereignty.

Not everybody is on board. The Canadian Agri-Food commerce Alliance and the Grain Growers of Canada voiced their worries that the measure will damage Canada's standing in international commerce. Senator Paula Simons of Alberta was among the Senate

critics who voiced worries about national unity and the precedent of a separatist party influencing trade policy.

Notwithstanding the controversy, the law is a major legislative achievement for Canada's 431,000 dairy, poultry, and egg workers, guaranteeing that their industries would not be discussed in future trade agreements.



# Editorial Calendar 2025

Publishing Month: <b>January</b> Article Deadline : <b>28<sup>th</sup>, Dec. 2024</b> Advertising Deadline : <b>30<sup>th</sup>, Dec. 2024</b> Focus : <b>Opportunities and Challenges</b>	Publishing Month: <b>February</b> Article Deadline : <b>28<sup>th</sup>, Jan. 2025</b> Advertising Deadline : <b>30<sup>th</sup>, Jan. 2025</b> Focus : <b>Budget</b>	Publishing Month: <b>March</b> Article Deadline : <b>26<sup>th</sup>, Feb. 2025</b> Advertising Deadline : <b>28<sup>th</sup>, Feb. 2025</b> Focus : <b>Summer Stress Management</b>	Publishing Month: <b>April</b> Article Deadline : <b>28<sup>th</sup>, March 2025</b> Advertising Deadline : <b>30<sup>th</sup>, March 2025</b> Focus : <b>Cold Chain</b>
Publishing Month: <b>May</b> Article Deadline : <b>28<sup>th</sup>, April 2025</b> Advertising Deadline : <b>30<sup>th</sup>, April 2025</b> Focus : <b>Nutrition</b>	Publishing Month: <b>June</b> Article Deadline : <b>28<sup>th</sup>, May 2025</b> Advertising Deadline : <b>30<sup>th</sup>, May 2025</b> Focus : <b>Milk - Production &amp; Preservation</b>	Publishing Month: <b>July</b> Article Deadline : <b>28<sup>th</sup>, June 2025</b> Advertising Deadline : <b>30<sup>th</sup>, June 2025</b> Focus : <b>Monsoon Management</b>	Publishing Month: <b>August</b> Article Deadline : <b>28<sup>th</sup>, July 2025</b> Advertising Deadline : <b>30<sup>th</sup>, July 2025</b> Focus : <b>Sustainability</b>
Publishing Month: <b>September</b> Article Deadline : <b>28<sup>th</sup>, August 2025</b> Advertising Deadline : <b>30<sup>th</sup>, August 2025</b> Focus : <b>Processing &amp; Packaging</b>	Publishing Month: <b>October</b> Article Deadline : <b>28<sup>th</sup>, September 2025</b> Advertising Deadline : <b>30<sup>th</sup>, September 2025</b> Focus : <b>Disease Prevention</b>	Publishing Month: <b>November</b> Article Deadline : <b>28<sup>th</sup>, October 2025</b> Advertising Deadline : <b>30<sup>th</sup>, October 2025</b> Focus : <b>Biosecurity</b>	Publishing Month: <b>December</b> Article Deadline : <b>28<sup>th</sup>, November 2025</b> Advertising Deadline : <b>30<sup>th</sup>, November 2025</b> Focus : <b>Winter Stress</b>

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