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From the Pen of Chief Editor



Sanitation: A farmer's first line of defence against disease outbreaks

Disease outbreak is a farmer's biggest nightmare as it has a negative impact on herd health and milk production and causes financial distress. Disease prevention helps in maintaining herd health and ensures the safety and quality of milk produced.

Clean and ventilated housing with bio-security measures, nutrition and health with regular health check-ups, mastitis prevention and milking hygiene are some of the key areas to be addressed to prevent the outbreak of diseases.

Housing that is clean, dry, and comfortable with proper ventilation, lighting and ample space for cows can help prevent the growth of harmful bacteria, viruses and parasites and reduce the risk of diseases.

Regular hoof trimming can help prevent the development of hoof diseases, which can be a source of infection for other cows. Footbaths containing disinfectants can help prevent the spread of diseases that are transmitted through foot traffic, such as foot-and-mouth disease.

Implementing strict bio-security protocols, such as controlling access to the farm, screening visitors, and minimizing contact between animals from different herds, can help prevent the spread of disease to the farm.

Management of manure and other waste also helps in preventing the spread of disease by reducing the presence of harmful bacteria and parasites.

Regular monitoring of feed and water quality can help prevent the spread of disease and improves herd health. A balanced diet that meets their nutritional needs can help boost their immune systems. Clean and fresh water helps prevent the spread of water-borne diseases, such as salmonella and improves their health.

Vaccinating dairy animals against common diseases can help prevent outbreaks and reduce the spread of disease within the herd. It is important to use medications responsibly and under the guidance of a veterinarian to prevent the development of antibiotic-resistant bacteria and other issues.

Regular monitoring of milk quality can help identify any potential issues, such as elevated bacterial counts or the presence of antibiotics, and proper cleaning of milking equipment, such as milking machines and bulk tanks, can help prevent the growth and spread of harmful bacteria and other pathogens.

Sanitation is a critical aspect of disease prevention and implementing and maintaining good sanitation practices is essential for preventing the spread of diseases in dairy farming and can ultimately help ensure the health and wellbeing of cows and produce safe and high-quality milk for consumers.

Vishal

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Interview with Amit, a Small-Scale Milkman from Gullarpur



Amit represents a new breed of educated milkman in India who, with his entrepreneurial spirit, has taken his small dairy farm to new heights. With his technical knowledge, Amit has implemented sustainable practices and improved the quality of milk production on his farm

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Gujarat's Cattle Breeds: Preserving Heritage through Conservation

**Pritam Pal, Amritanshu Upadhyay
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Gujarat, a western Indian state, is known for its diverse traditions, rich cultural heritage, and thriving agricultural and dairy sectors. Several cattle breeds have been bred in the state for centuries and have become an integral part of its culture and economy. These cattle breeds are known for their distinct physical characteristics, strength, and high milk yield, and have made significant contributions to the state's dairy and agricultural industries.

In this article, we will look at some Gujarat's most popular cattle breeds and their significance in the state. From the majestic Gir to the

tough Kankrej, we'll look at their physical characteristics, milk yield, and cultural significance.

1. Gir Cattle - Milch Purpose breed of Gujarat

- **Synonyms:** Sorathi, Bhodali, Desan, Gujarati, Kathiawari, Sorthi, and Surati
- **Breeding tract:** The breed's native range includes the Gujarat districts of Junagadh, Bhavnagar, Rajkot, and Amreli, as well as the area around the forests of Gir's.
- **Utility:** Gir cows are good milk producers. Bullocks can pull heavy loads on various soils, be

Gir male





Gir male

they sandy, black, or rocky. It is docile in nature

Morphological Features

- **Colour:** Gir cattle are found in three strains, with coats ranging from shades of red and white to almost black and white or all red.
- **Horn Shape & Size:** The horns are exceptionally curved. Beginning at the base of the crown, they curve downward and backward, then slightly upward and forward, spiralling inward and ending in a fine point, giving the appearance of a half-moon like appearance.
- **Ears:** Long and drooping, folded like a leaf. The ears are always hanging with the inner surface facing forward.

Distinguishing characters:

- Rounded and domed forehead (only ultra-convex breed in the world)
- Long pendant leaf-like ear

- Horns are spiralled out and backward

Gir Cattle Breeding Farm:

Bhutvad, District- Rajkot, Total 219 animals (Gir bull- 14)

State Frozen Semen Production and Training Institute- Patan (Gir bull- 17)

2. Kankrej Cattle - Dual Purpose

breed of Gujarat (Milch & Draught)

- **Synonyms:** Vadhiyari, Wadad, Waged, Vagadia, Talabda, Nagar, Bonnai, Gujarati
- **Breeding tract:** Named after the Kankrej taluka in north Gujarat. The Breeding tract extends from the southern part of Rann of Kachchh, from the southwest corner of Banaskantha district, Kankrej taluka, Tharparker district (now in Pakistan) to Ahmedabad, and from Disa to Radhanpur.
- **Utility:** Bullocks of this breed are mainly used for agriculture and road transport in village areas. One of India's best dual-purpose breeds. It is known for producing strong and fast bullocks. Animals of this breed have been exported to Brazil and other Latin American countries as well as to the southern states of the United States.

Morphological Features

- **Color:** Silver grey to iron grey or steel grey
- **Horn Shape & Size:** The horns are strong and curved outwards and upwards in a lyre shape. The



Kankrej female



Dangi male

skin is more curved than in other breeds.

- **Ears:** large pendant and open ears.
- **Gait:** The gait of the Kankrej is unique to the breed; the action is smooth, there is little body movement, the head is held noticeably high, the stride is long and, even and the hind hoof is placed well ahead of the impression of the front hoof. The breeders call this gait is called 1¼ paces ("Sawai chal")

Distinguishing feature: Horns are lyre-shaped

Ears are large, drooping and open

Kankrej Cattle Breeding Farm:

- (1) Thara, dist. Banaskantha, total animal - 301 (2 Kankrej bull)
- (2) Bhuj, dist. Kutch, total animal- 290 (14 Kankrej bulls)

(3) Mandvi, dist. Surat, total animal- 320 (9 Kankrej bull)

State Frozen Semen Production and Training Institute- Patan (7 Kankrej bull)

3. Dangi Cattle - Hilly Cattle of Gujarat (Draught Purpose)

- **Synonyms:** Kandadi
- **Breeding tract:** Dang district of Gujarat and Ahmednagar and Nasik District of Maharashtra
- **Utility:** Dangi breed is well known for its excellent working qualities in high rainfall area, rice fields and hilly tracks.
- They can travel 20 to 24 miles a day as draught animals, carrying heavy timber at a speed of 2 to 3 miles per hour, depending on the terrain. Dang means mountain in Marathi and these animals live in the mountains.

This is why they are known as Dangi. Some believe it originated in the Dang district of Gujarat.

Morphological Features

- **Colour:** Coat colour with black or red patches unevenly distributed over the entire body of the animal.
- **Horn shape & size:** There are a significant number of animals with both inward and downward-pointing horns.
- **Distinguishing feature:** The coat is white with red and black spots that are unevenly distributed, and the horns are short and thick, curled downwards.

Conservation efforts

Conservation efforts for cattle breeds in Gujarat have gained

momentum in recent years due to the growing recognition of their importance to the state's culture, economy, and environment. Here are some examples of conservation efforts for cattle breeds in Gujarat:

1. National Bureau of Animal Genetic Resources (NBAGR):

The NBAGR, located in Karnal, Haryana, is a national research organization that works on the conservation and genetic improvement of livestock and poultry. The NBAGR has developed a comprehensive database of indigenous cattle breeds, including those found in Gujarat, to help their conservation efforts.

2. Gauseva and Gauchar Vikas Board:

The Gauseva and Gauchar Vikas Board was set up by the Gujarat government to promote the welfare of cows and to conserve indigenous cattle breeds. The board provides financial assistance to farmers for breeding and rearing indigenous cattle breeds and has set up cattle breeding centres across the state.

3. Kamdhenu University:

Kamdhenu University, located in Gandhinagar, is a state

university dedicated to research and education on livestock and poultry. The university has a dedicated department for the conservation and improvement of indigenous cattle breeds, including those found in Gujarat.

4. Non-Governmental Organizations (NGOs):

Several NGOs are working towards the conservation of indigenous cattle breeds in Gujarat. These organizations provide training and support to farmers for breeding and rearing indigenous cattle breeds and also promotes awareness about the importance of conserving genetic diversity.

5. Government schemes:

The Gujarat government has launched several schemes for the conservation of indigenous cattle breeds, such as the "Kamdhenu Breeding and Conservation Scheme" and the "Gujarat Indigenous Breeds Conservation Program." These schemes provide financial assistance to farmers for breeding and rearing indigenous cattle breeds and also promote the use of indigenous breeds in agriculture and dairy production.

Overall, these conservation efforts are crucial for the preservation of genetic diversity and the sustainable development of agriculture and dairy production in Gujarat. Through the collective efforts of research organizations, government schemes, NGOs, and farmers, indigenous cattle breed in Gujarat can be conserved for future generations.

Conclusion

The cattle breed of Gujarat plays a vital role in the state's economy, culture, and environment. These breeds have unique characteristics that make them well-suited for different purposes, such as milk production, meat production, and draft animal work. However, many of these breeds are endangered due to lack of awareness and conservation efforts.

Thankfully, efforts are being made to conserve these breeds, such as the work of organizations like NBAGR and Gauseva and Gauchar Vikas Board, as well as government schemes and NGOs initiatives. The conservation of these breeds is crucial for maintaining genetic diversity, sustainable agriculture, and preserving the cultural heritage of Gujarat.



Dangi female



Benefits of Aspergillus Oryzae Extract in Transition Dairy Cows

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is Head of Technical and Regulatory Affairs at Zenex Animal Health.

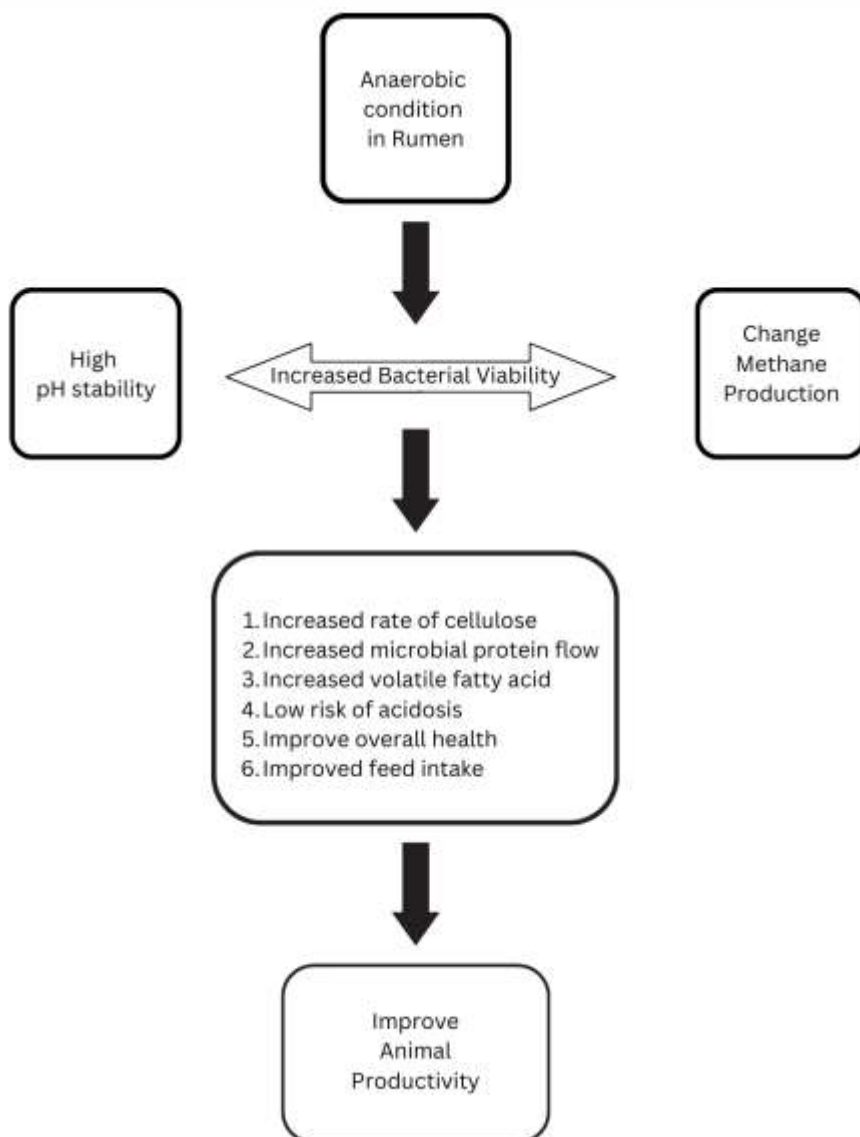
Dr. Jyotika

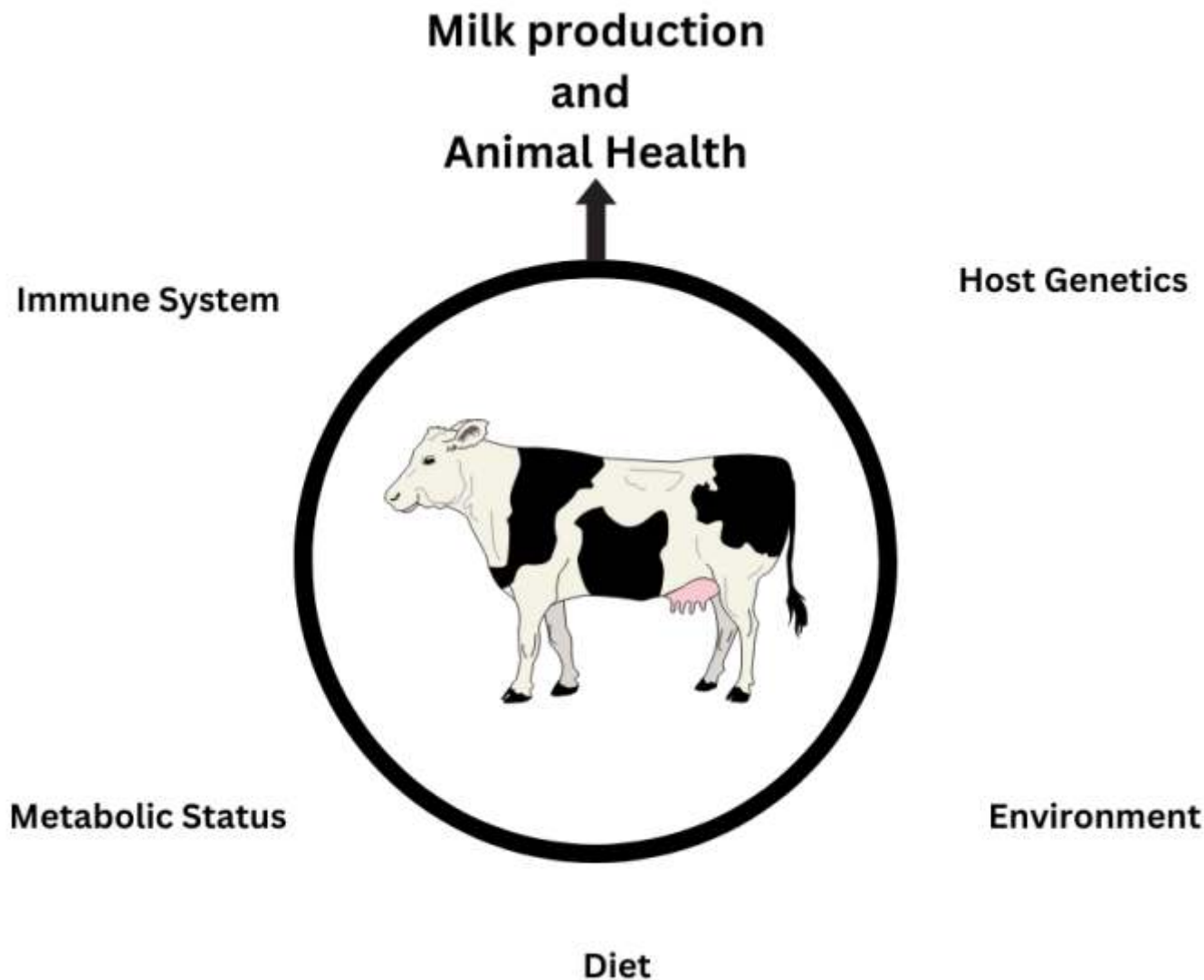
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Transition of cows from late gestation to early lactation is challenging for both animals and dairy farmers. The period at the end of the dry period and the beginning of lactation in dairy cows is commonly known as the transition period. Traditionally, transition period was considered as the 3 weeks before calving and the 3

weeks following calving. However, with the increasing understanding about cow's physiological and metabolic changes, this period has been recognized as the 60 days before calving and the 30 days following calving. The transition refers to dairy cows going from a near maintenance state in late gestation, rapidly changes to a





state of increased metabolic and nutrient demands at the onset of lactation. This period is extremely important in determining future health, milk production, and reproductive success of the dairy cow. It has been suggested that up to 80% of metabolic disorders or production diseases experienced by dairy cows during the transition period.

Managing the transition phase is important because cows are stressed due to fast growing foetus and advanced pregnancy. Reduction in feed intake and low immunity make them vulnerable to metabolic and infectious diseases – mastitis, metritis and have poor hoof strength. The period is considered as most critical because

of the long-term health and productive consequences. The root cause of transition cow challenges is complex and in most of the cases multifactorial.

Energy requirement and negative Energy Balance:

The transition period of dairy cow is characterized by a sharp decline in dry matter intake and the negative consequences in dairy cow's health and productivity after parturition. During the transition period, nutrient requirements increase to support foetal growth and milk production. The energy requirements of a recently calved cow are so significant that most dairy cows do not initially eat enough to meet the requirement. The gap in the energy requirement

along with increasing milk production results in negative energy balance. To cop-up with the requirement cows mobilize energy from body reserves, mostly from the body fat stores. In extreme cases, degradation of muscles and bone may take place. The more time a fresh cow spends in a negative energy balance, the higher the probability she will have a health challenge. Hence, management of reduction in the amount of time the cow spends in a negative energy balance is of utmost importance.

Metabolic and Physiological changes:

Due to mismatch in the required calories and the energies generated from dietary intake during

transition period, cows most often mobilize energy from stored body fat. Decrease in dry matter intake around the time of calving may be one of the main problems with metabolic homeostasis in dairy cows. The blood Ca concentration starts decreasing in the 1 to 2 days before calving and reaches its lowest point within 48 hours of parturition.

The prevalence of clinical hypocalcaemia has decreased in the last few years. However, subclinical hypocalcaemia remains a significant problem affecting over half of multiparous high yielding cows. Subclinical hypocalcaemia is mostly associated with impaired postpartum health and with decreased milk yield.

Excessive lipolysis and increasing levels of non-esterified fatty acids (NEFA) takes place blood during this span. It is often associated with the accumulation of triglycerides in liver cells and impairment of liver function resulting in an elevated ketone production and predispose

animals to ketosis. Along with increased NEFA concentration, there is subsequent accumulation of beta-hydroxybutyric acid (BHBA) in the blood. These changes are considered normal as a part of adaptive process in high yielding cows; involves an orchestrated series of changes in metabolism that allow an animal to adapt to the challenges of the altered state. However, when a cow fails to adapt to these metabolic challenges, several metabolic and infectious disorders took place and affect the productive and reproductive efficiency.

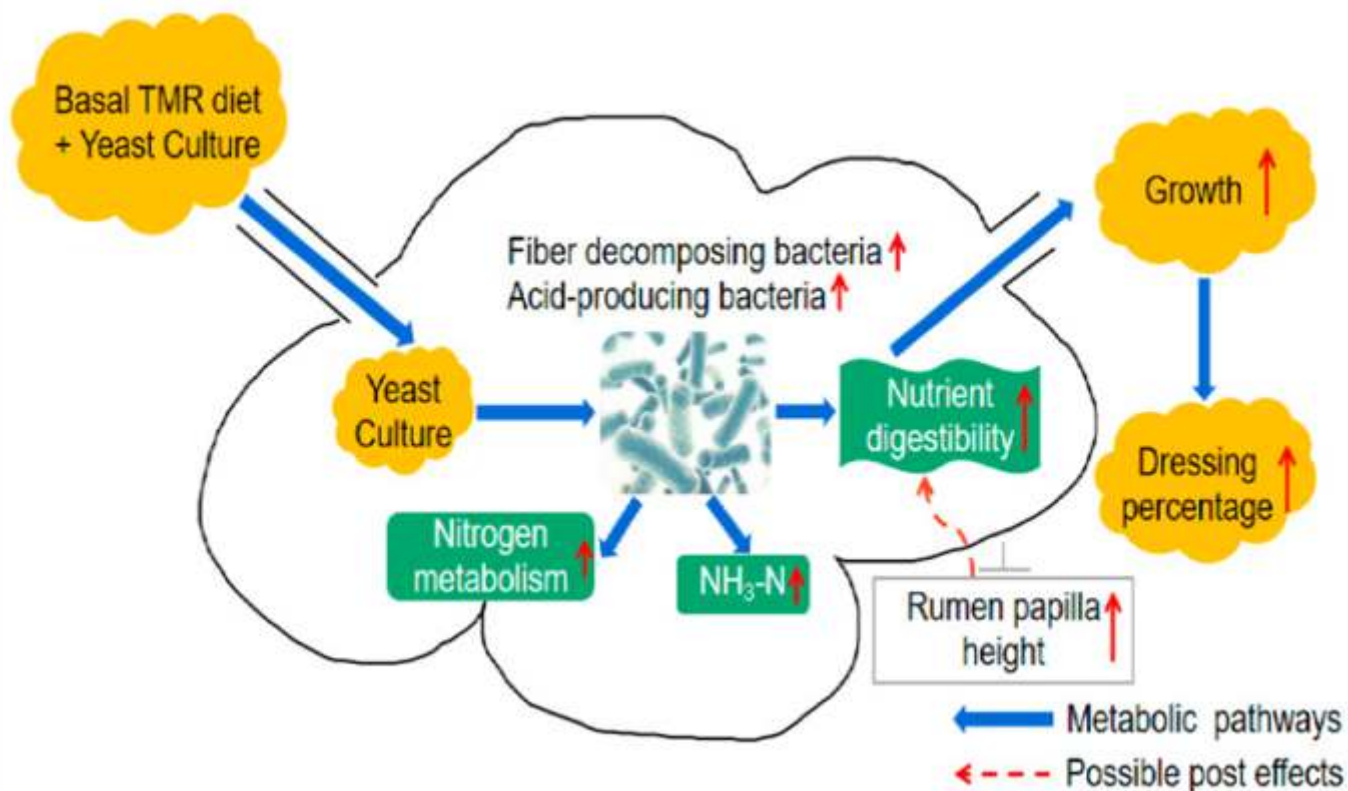
Pro-inflammatory cytokines such as IL-1 β , IL-6, and TNF- α are mainly released by macrophages located at different organs like liver, brain, and adipose tissue. The fat mobilization associated with the reduction in DMI during the period is considered responsible for the release of these pro-inflammatory cytokines into the bloodstream. Besides high growth hormone (GH) concentration, animals in negative

energy balance shows insulin resistance and reduced glucose uptake by peripheral tissues.

All metabolic processes are interconnected with each other. If there is a failure of one metabolic process, it will impact on the efficiency of others. Such effect may persist beyond the transition period; can be a major risk factor for subsequent productive and reproductive performance.

Immune Status:

One of the major negative impacts of poor transition cow management is immune-suppression. Immune status of animals decreases in and around parturition due to interaction of several factors. In peri-partum period, both humeral and cell mediated immunity get depressed due to the increased cortisol concentration. The week prior to and immediately after parturition, leucocyte proliferation is higher but antibody production ability in response to mitogen (non-specific stimulants of immune cells) is



decreased. The serum concentration of components of immune system such as immunoglobulin and complement factor also decreases at the time of parturition in dairy cow. Thus, the depressed immune system of the cow around calving, associated with the dramatic changes in circulating metabolites is hypothesized the basis of the high disease incidence postpartum and the subsequent low performance. On the other hand, negative energy balance due to reduction in DMI during transition period leads to suppressed immune function that may promote uterine diseases and other metabolic diseases.

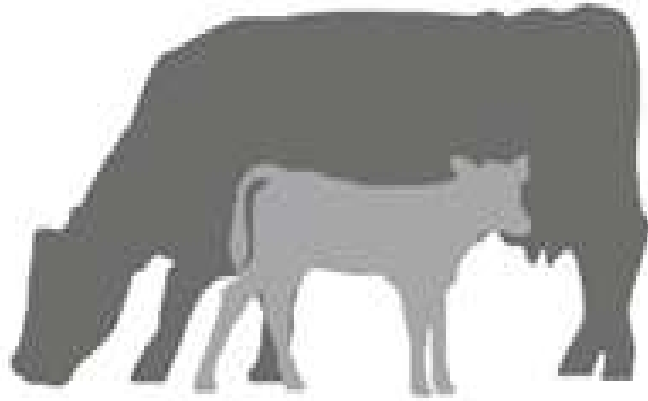
Diseases and Disorders during Transition period:

Maladaptation to the physiological or metabolic changes may result in excessive fat mobilization, dysregulation of inflammation, immunosuppression, and, ultimately, metabolic or infectious disease in the postpartum period.

Diseases that result from disruption in homeostasis of rumen function, calcium and bone metabolism; energy metabolism, protein metabolism and immune function. These conditions are often inter-related, leads to:

- Hypocalcaemia and downer's cow syndrome
- Hypomagnesaemia
- Ruminal Acidosis
- Ketosis and fatty liver
- Udder oedema / Mastitis
- Abomasal displacement
- Retained placenta
- Metritis
- Poor fertility and
- Poor production
- Other clinical and subclinical conditions

Live yeast benefits transition dairy cows



Increases digestive microbiota balance



Increases milk yield



Increases lying time



Increases feed intake



Improves pregnancy rate



Increases body condition score

In adult dairy cattle, 80% of disease costs occur in the first four weeks after calving. This is also a peak period for involuntary culls and deaths.

Management of Transition period:

The prime objectives of transition cow management are:

- To increase dry matter intake and energy supply
- Prevention or control of Ruminant Disruption
- Prevention of Macro and Micro mineral deficiencies
- Minimizing Lipid Mobilisation disorders
- Management of Stress and to optimize Immune functions Dr

An integrated approach to managing transition cows is needed if these challenges are to be dealt with effectively. Therefore, an integrated transition diet should comprise of energy and protein supplement, macro-minerals and DCAD, micro-minerals, rumen modifiers and buffers and other immunity enhancement additives. If these challenges are addressed during the transition period, a successful lactation and health status of the animals can be established.

The management practices for transition cows must be focused on maximizing dry matter intake and modulating stress and inflammation. To maximize dry matter intake, diet composition especially fibre and energy concentrations is one of the most critical factors. Other cow comfort parameters like control of heat stress, stocking density, bedding management etc. are essential to minimize stress during the transition period

Benefits of Yeast Extract

(Aspergillus Oryzae) in the management of Transition Cows:

Yeast extract is a natural product which is rich in proteins, amino acids, enzymes, nucleotides and a variety of minerals. Its application as animal feed additive is proven and supported by many research publications; however, their full potential has not been realized yet. In dairy cows, supplementation of yeast extract has been found to be very useful to prevent ruminal.

Disturbances, increase in dry matter intake, utilization of fibre and other nutrients and thereby improves overall improvement in body conditions. *Aspergillus oryzae* (AO) extract is considered as a precision prebiotic that enhances digestibility by amplifying the nutrient supply for maximum performance.

Aspergillus oryzae extract contains wide variety of polysaccharide and amylase enzymes, which increases rumen function by enhancing fibre digestion and reducing the transient post-prandial drop in ruminal pH. The combined effect of such additive help cows to adapt from high roughage diets to higher concentrate diets especially in the transition cows. An increase in feed digestibility due to the prebiotic would lead to an increase in nutrient absorption. The increase in rumen fermentation and VFA production improve overall energy supply and metabolic profiles. It helps in reduction in rumen lactic acid concentration by stimulating lactic acid utilizing bacteria and thus minimize nutritional stress due to subacute acidosis. The extra energy made available to the cow support for a healthy transition. Evidence suggests that supplementation of yeast extracts provide a substantial benefit to transition cow during immune challenge through improving availability of energy. Besides, the

prebiotic AO supplement decreases the number of cytokines and other inflammatory metabolites and thereby reduce levels of stress and boost immune function.

Conclusion:

The transition period constitutes a turning point in the productive cycle of the cow as it encompasses a number of changes on the cow which are in physiological transit from one lactation to the subsequent lactation and hence it requires proper management for successful dairy farming. General management practices of transition cows include control of hypocalcaemia (milk fever) and feeding of propylene glycol or glycerol as an energy source. Such strategies have some benefits in addressing a particular problem, however transition cow challenges are complex and multifactorial that needs integrated nutritional strategies. An integrated transition diet should comprise of energy and protein supplement, macro-minerals and DCAD, micro-minerals, rumen modifiers and buffers and other immunity enhancement additives. To meet specific objectives in support of the transition cow, adequate nutrient supplementation and specific additives to be provided that support and enhances rumen function, nutrient absorption and immune functions. Recently, several fungal and yeast cultures or extract as feed additives have demonstrated significant beneficial effect in improvement of health, productivity and combating stress in dairy cows. *Aspergillus oryzae* is considered as a precision prebiotic that improves rumen function, enhances digestibility, improvement in overall energy supply and metabolic profiles and enhances immune functions.

IRIS
MONEY
doesn't talk, it swears

Happy cow Plus milk



4 Benefits

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

2 Goals

1. More Milk
2. More Profit !!!



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Reducing Methane Emissions: Solution For A Sustainable Future

IT'S ALL ABOUT METHANE (CH4)

Greenhouse Gases

Any gas that has property of absorbing infrared radiation (net heat energy) emitted from Earth's surface & reradiating it back to Earth's surface are GHG.

Carbon dioxide, Methane, Nitrous oxide are most important greenhouse gases.

The effect of each greenhouse gas on Earth's climate depends on its chemical nature and its relative concentration in the atmosphere.

D. B. V. Ramana, et al.,2014. AN ORAL FEED STRATEGY IN SHEEP FOR IMPROVED DIGESTIBILITY, NUTRIENT UTILIZATION AND METHANE MITIGATION. International Journal of Pharmacy and Pharmaceutical Sciences.(Vol 7, Issue 3, 2015).

et al.,2015. POLYHERBAL FORMULATIONS TO MITIGATE METHANE EMISSION IN SMALL RUMINANTS. Proceedings of the International Conference on Anaerobic Digestion.]

Greenhouse gases (GHGs) warm the Earth by absorbing energy and slowing the rate at which the energy escapes to space; they act like a blanket insulating the Earth.

Methane (ch4) as greenhouse gas

An effective greenhouse gas.

Methane's lifetime in atmosphere is much shorter than CO2 but is more efficient in trapping radiation than CO2.

It is emitted during the production & transport of coal, natural gas & oil. It also results from livestock and agricultural practices (a predominant source).

Methane emissions from manure and gastro-enteric releases from livestock account for roughly 32% of human caused methane emission. Population growth, economic development & urban migration have stimulated unprecedented demand for animal protein.

Ruminant livestock can produce 250-500 L of methane per day. Cattle are responsible for most emissions, representing about 65% of the livestock sector's emissions.

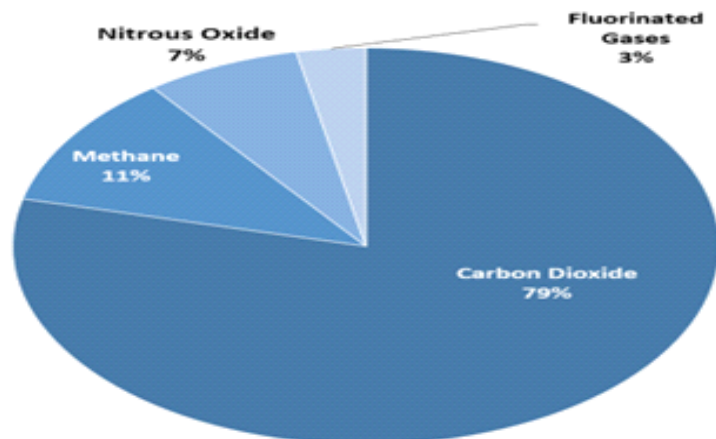
Enteric CH4 is by-product of ruminant digestion produced by methanogenic organisms by the process called Fermentation or Methanogenesis. As CH4 is exhaled or eructated into atmosphere, the ruminant suffers loss of energy depending on the diet.

CH4 tends to decrease as the protein content of the feed increases and increases as the fibre content of feed increases.

Greenhouse gas emission - Asia produce the highest, followed by Latin America and the Caribbean, Europe, North America, Africa and Oceania (Gerber, 2013)







Enteric methane emissions are single largest source of direct Greenhouse gas in beef & dairy cattle.

Overview of U.S. Greenhouse Gas Emissions in 2020

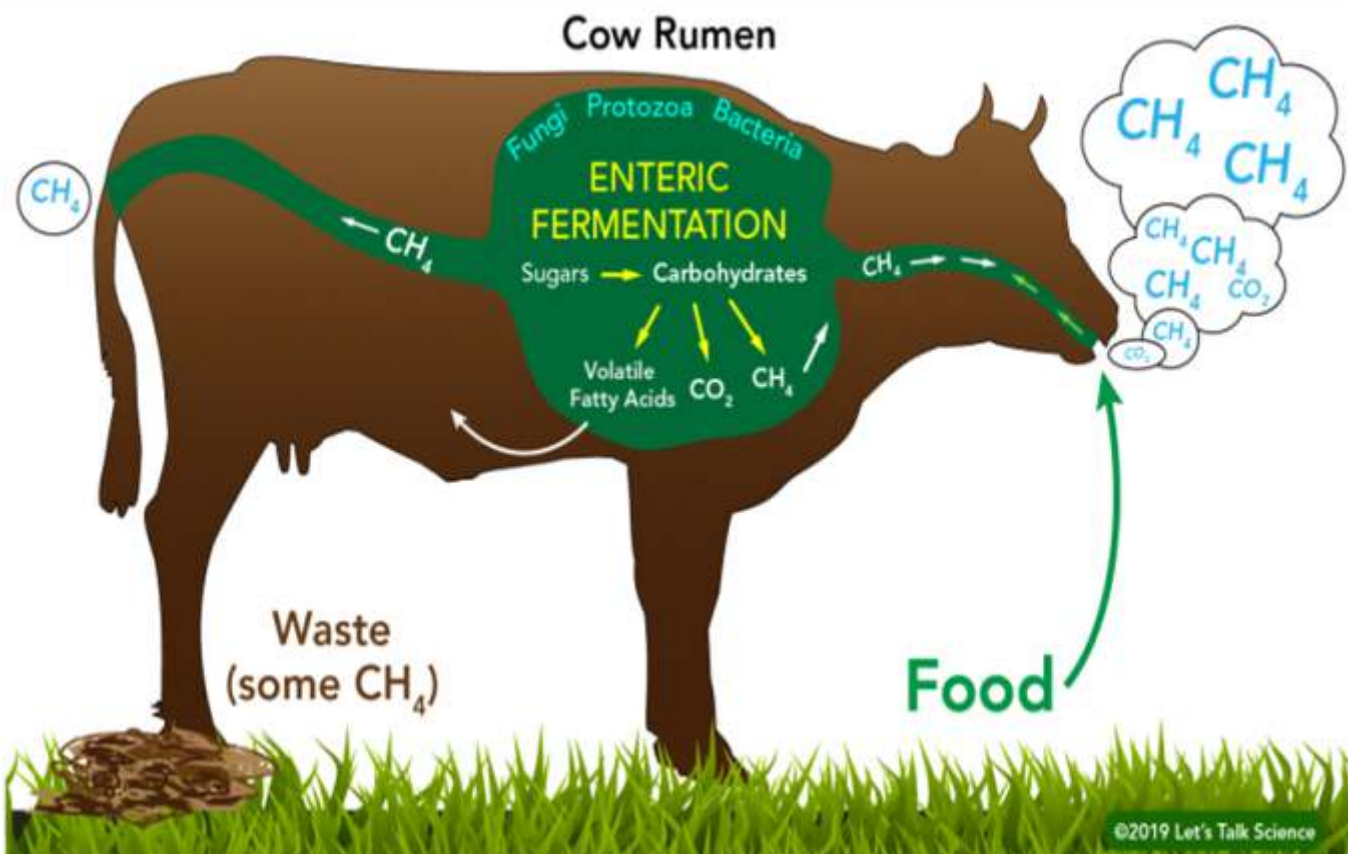


U.S. Environmental Protection Agency (2022). Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2020

FACTORS INFLUENCING METHANE EMISSION FROM CATTLE

-  LEVEL OF FEED INTAKE
-  TYPE OF CARBOHYDRATE IN DIET
-  FEED PROCESSING
-  ALTERATION IN RUMEN MICROFLORA
-  ANIMAL SIZE, GROWTH RATE, LEVEL OF PRODUCTION
-  ENVIRONMENTAL TEMPERATURE

Enteric fermentation is highly evolved process that allows ruminants to digest cellulose, the basic component of plant cell wall. Rumen microbes ferment simple and complex carbohydrates like cellulose to produce volatile fatty acids (VFAs), which can satisfy over 70% of the energy requirements of the host animal. However, the production of certain VFAs also produces Hydrogen, which is converted to CH_4 by methanogenic archaea (i.e., methanogens). Methanogenens often uses the hydrogen and carbon dioxide produced by carbohydrate fermentation, as VFAs are formed.



METHANE REDUCTION STRATEGIES

Reductions in methane production from ruminant animals can result from a reduction in rumen fermentation rate (suppression in microbial activity) or a shift in volatile fatty acid (VFA) production.

- **Feeds, feeding management & nutrition** - feeding good-quality feeds can increase animal productivity and feed efficiency. Certain feeds can enhance propionate or decrease acetate production, decreasing Hydrogen that would be converted to CH_4 .
- **Rumen modifiers** - feeding specific substances that directly or indirectly inhibit methanogenesis or using

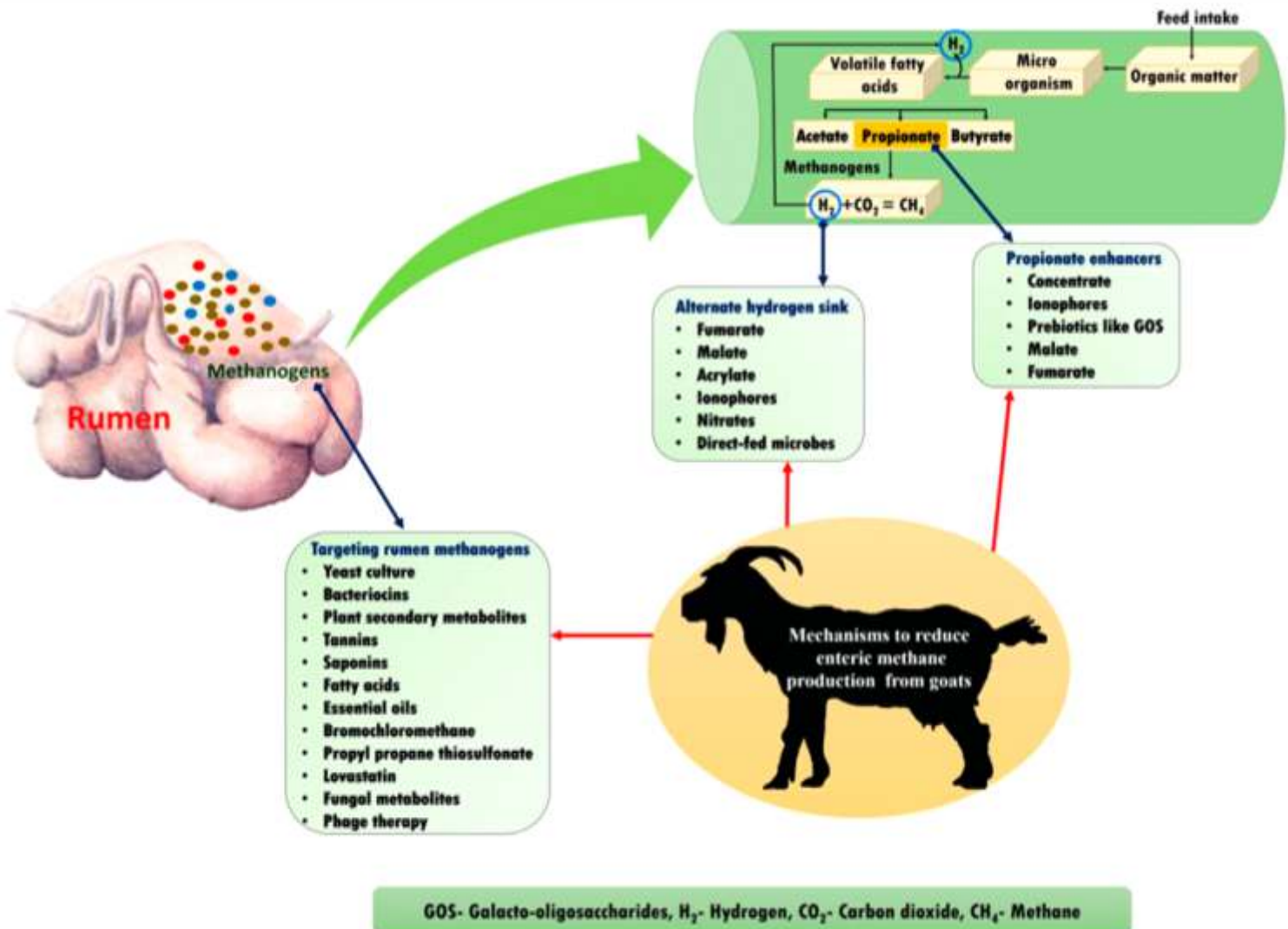
biological control (defaunation, bacteriocins, bacteriophages, and immunization) directed at reducing methanogens.

- **Increasing animal production through genetics & other management approaches**- Improving nutrient utilization for productive purposes to dilute out maintenance on an individual animal or a herd basis, increasing feed efficiency and decreasing CH_4 per unit of product (meat or milk). Total CH_4 emissions will be decreased if annual production of milk remains constant and fewer cows are needed to produce the same amount of milk.

More than 100 countries joined a U.S.- and EU-led effort to cut emissions of methane 30% by 2030 from 2020 levels.



UNEP Food Systems and Agriculture Advisor James Lomax says the world needs to begin by “rethinking our approaches to agricultural cultivation and livestock production.”





The short lifespan of CH₄ means that it may be possible to mitigate climate change more rapidly by reducing enteric CH₄ emissions than by reducing CO₂ emissions because the CO₂ can remain in the atmosphere for up to 200 years. Therefore, mitigating the CH₄ from cattle offers an opportunity to reduce GHG emissions and climate change.

Ruminant production systems will face tremendous challenges in the next forthcoming years due to the increasing demand for beef and milk by the burgeoning population. There is a need to reduce emissions of greenhouse gases from ruminant production systems while increasing energetic efficiency of protein and fat synthesis.

A large variety of plants containing

secondary metabolites [tannins, saponins, and flavonoids] have been evaluated as cattle feedstuffs and changes in volatile fatty acid proportions and methane synthesis in the rumen. Herbs like: Acorus calamus, Allium sativum, Zingiber officinale, Terminalia chebula, Azadirachta indica, and many more have been well documented for methane reduction.

The UK Government has launched a UK-wide call for evidence asking agricultural industry, scientists and the wider public for information on the use of new types of animal feed products that can reduce methane emissions from livestock.

Ayurvet endeavour is to blend the ancient knowledge of Ayurveda with modern technology to deliver quality assured, scientifically tested products for animal health care.

Ayurvet's Ruchamax (appetite stimulant & digestive tonic) that has shown result in reducing methane emission as well as improved digestibility, weight gain and health. It works in its unique 4 way action for Improved Digestion & Milk Production by:

- 1. Increased Salivary Secretions**
- 2. Improved Microfloral number & activity**
- 3. Increased Rumen Motility**
- 4. Optimum pH**

Thus, Ruchamax has both implications for efficient animal production & on global environmental protection.





▲ Amit represents a new breed of educated milkman in India who, with his entrepreneurial spirit, has taken his small dairy farm to new heights. With his technical knowledge, Amit has implemented sustainable practices and improved the quality of milk production on his farm

As India continues to experience rapid urbanization, small-scale dairy farming is becoming a viable source of livelihood for many people living in rural areas. In this interview, we speak with Amit, a small-time milkman from the rural village of Gullarpur in Haryana, about his successful dairy farm and the challenges he has faced along the way.

Can you tell us about your dairy farm and how it started?

I passed polytechnical. Then I remained home for a year helping in the chores. Then I started working in a factory. I continued to toll in the factory. After a while I got fed up there. The working environment of that factory was difficult. The job came with a lot of trouble. Then I thought to start my own business. I ventured into the dairy sector.

Interview with Amit, a Small-Scale Milkman from Gullarpur

I collected milk from my home. I collected milk from the villagers. I came to the city and sold it. That's how I started my work.

How much cattle do you own and what breeds do you raise?

I own two cows and eight buffaloes and their calves. The breeds of the cow H.F. and Sahiwal. The buffalo breed is Murra.

You have partnered up with the villagers to amass more milk?

Yes. I buy milk from them at a base price and then come to the city to sell it.

What difficulties did you faced when you started?

The truth is I faced very little problem when I started this. It was because I already owned cattle. Now, when someone starts from scratch, he faces more difficulties. He must make a customer base. I knew some people in the city, so they were my first customers. They saw the quality of my milk and slowly my customer based expanded.

How do ensure the health and welfare of cows?

This is straight and simple. Give them fodder on time and ample of water. If they get ill call a vet immediately. Don't wait and try to take thing into your hands. You are not a vet.

What fodder do you give them?

It is mix of straw, chaff and halm. I mix in feed additives also.

Your competition is with local and national brands as well in this sector. How are you managing to survive in this cut-throat business?

I mainly supply milk to directly to consumers. Some of the local brands do not sell their milk but process it directly to make milk-based products and sell them. I am not in that

business. I am not competing with any of them. I am just cratering to my local consumers.

Is your door-step delivery a good factor in retaining sales?

Look brother, here is the thing. I am doing my business. I started my own work. I started my own doing. Door-step delivery is crucial for me. I like it that way. Everyone should adopt to their needs.

Are there any government policies or regulations that have affected your dairy farm?

Sometimes it reaches us. They run a vaccination program whenever there is a disease outbreak.

Have you incorporated any sustainable or eco-friendly practices?

Yes, I use organic manure and minimize the use of chemicals as much as possible.

What kind of equipment and technology do you use on your farm to improve milk production and quality?

I use a milking machine and weighbridge to ensure accurate measurements, and I also have a cooling unit to maintain milk quality.

What do you see as the future of small-scale dairy farming in India?

Small-scale dairy farming has great potential in India, and with the right support and policies from the government, it can become a viable source of livelihood for many people living in rural areas.

In conclusion, Amit's success in the dairy farming sector is a testament to the fact that with the right resources, hard work, and determination, anyone can achieve their dreams. His commitment is to providing high-quality milk and customer satisfaction.

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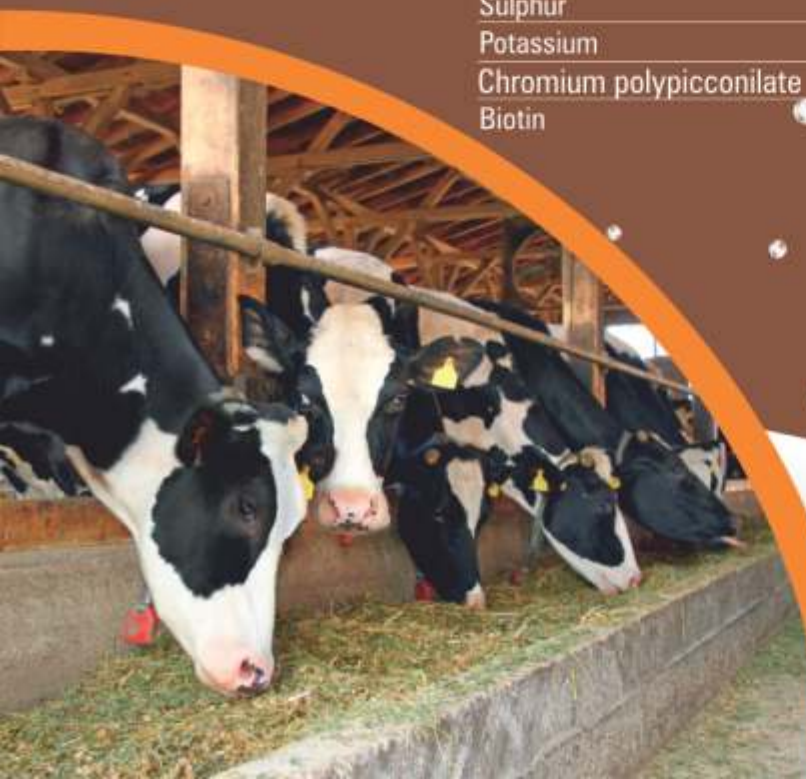
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Publishing Month: May Article Deadline : 30th, April 2023 Advertising Deadline : 3rd, May 2023 Focus : Small Ruminants Management (Sheep, Goat etc)	Publishing Month: June Article Deadline : 30th, May 2023 Advertising Deadline : 3rd, June 2023 Focus : Calf & Heifer Management	Publishing Month: July Article Deadline : 30th, June 2023 Advertising Deadline : 3rd, July 2023 Focus : Milk Production Management/ Milking Practices	Publishing Month: August Article Deadline : 30th, July 2023 Advertising Deadline : 3rd, August 2023 Focus : Feed & Fodder
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