

₹80/-

JUNE 2024

# AGRICULTURE TODAY

The National Agriculture Magazine

VOLUME XXVII | ISSUE 6

[www.agriculturetoday.in](http://www.agriculturetoday.in)

WHITE  
REVOLUTION **2.0**

*Closing gaps*





From The Group Editor's Desk	03
<b>PLAN</b> Milking the Future: Tradition Meets Innovation in India's Dairy Industry	12
<b>OUTLOOK</b> Indian Dairying: An Opportunity	18
<b>RURAL DEVELOPMENT</b> The Role of Dairy in Enhancing Rural Livelihoods	22
<b>ANALYSIS</b> Transforming the Dairy sector in India	24
<b>SUSTAINABLE SOLUTIONS</b> Nutrition and Productive Dairy Systems	26
<b>REACHING OUT</b> Dairy Cattle - Intervention as Rehabilitation	28
<b>FOOD FOR THOUGHT</b> Animal Nutrition For Enhancing Dairy Production	30
<b>DIGITIZATION</b> Enhancing Dairy Production through Digitization	32
<b>OPPORTUNITIES</b> Commercial Fodder Processing: Next Game Changer for Indian Dairy Sector	34
<b>SUCCESS STORY</b> Optimum Animal Nutrition Management for Efficient Dairy Production	37
Poolani Milk Cooperative Society [PMCS] Transforming Melour	38
<b>TÊTE-À-TÊTE WITH ANJANA</b> Collaboration with Customers is Key	40
<b>INTELLIGENT FARMING</b> AI-Accelerated Research to Drive Agriculture Productivity	42
<b>INTERACTION</b> 'Agri-educational system of India is in a transformative stage'	46
<b>CASE STUDY</b> Gumla's Ragi Mission	48
<b>REALITY CHECK</b> Demystifying Myths about Pesticides use in India	51
<b>DUEL OF OPINION</b> Need for a Thorough Investigation !	54
Pesticides laden food – At what cost	55
<b>REPORT</b> Policy Round Table on Crop Protection	56

06

WAY FORWARD

DR. MEENESH SHAH



08

EXPERTS SPEAK

DR. RS SODHI



10

OVERVIEW

TARUN SHRIDHAR



14

NUTRITIONAL SECURITY

MR. MANISH BANDLISH

20

PERSPECTIVE

DR ARUN ATREY



44

IN CONVERSATION

MR B S SIVAKUMAR

# DAIRY HEALTH MANAGEMENT FOR ENHANCED PRODUCTIVITY

India is world's largest producer and consumer of milk. Its per capita consumption stands at 459 g per day which is well above the world average. Indian dairy sector is largely self-sufficient in milk production, with 80 million rural households engaged in milk production and around 10 million employed full-time. Nearly the entire dairy produce in India is consumed domestically, with the majority being fluid milk. India's consumption of fresh dairy products is expected to increase by 2.3% annually, which holds a tremendous potential for value-addition and overall improvement.

More than 70% of India's milk production is from smallholder farmers, with an average herd size of 1–5 milch animals. Dairy farms sized from 50–200 cattle are increasing although they are still very less and the shift towards medium to large-scale dairy farms will continue. However, small & marginal farmers will remain relevant in India. Demand for dairy is expected to grow due to population increase, rising incomes and increasing trend of higher consumption of value-added products.

### Challenges in Indian Dairy Sector

The dairy sector is facing many challenges. Low productivity, chronic shortages of feed & fodder, large population of unproductive cattle, absence of effective extension system, inadequate animal health coverage & diagnostic facilities, immunization and hygienic programme, lack of cold chain logistics, unorganised marketing, etc. are the pre-dominant constraints affecting the rate of its growth of the sector. The production potential has not been fully realized because of the constraints related to breeds, feeding, breeding and



**About the AUTHOR**  
**Dr Arun Atrey, Managing Director and CEO, Zenex Animal Health**



health management. Less number of animals on balanced cattle feed accounts for half of the total losses, followed by the problems of breeding & reproduction and diseases. Fluctuations in demand and milk prices is another concern for the dairy farmers. It also discourages progressive farmers from growing their herd size, as incomes are volatile and risky.

### Current Trend in Health Management of Dairy Cows

Vital management areas for most herds include nutritional management, milking management, animal welfare, sick animal diagnosis and treatment. Veterinary services are improving in its reach to customers and getting more specialised. There has been increased adoption of preventive approaches for disease management with vaccination, nutritional and hygienic measures. Adoption of such practices has increased the demand for quality medicines, animal feed additives, hygiene management prod-

ucts, vaccines etc.

The need for continuous improvement in the sustainability of livestock production necessitates better health for animals. Providing health needs for the huge populations of animal is a significant challenge as well as an opportunity. Animal healthcare companies are working continuously to deliver new medicines and technologies to build a better world for animals, people, and the environment.

### **Nutritional Products**

With the increasing trend of enhancing productivity of animals especially in dairy animals have created more demand for precision nutrition. Currently, many nutritional supplements are available for fulfilling specific nutritional need as per health & productivity of individual animals as well as to maintain rumen health of the cows along with production & reproduction efficiency. Ration balancing with essential macro- and micronutrients appears to be the most practical concept. Also, some institutes have developed digital Apps for balanced rations with different feed ingredients.

### **Traditional medicines or Ethnoveterinary Practice**

Ethnoveterinary medicine is silently playing a vital role in sustainable livestock production. They are very dynamic & multifunctional, and scientifically proven for controlling a variety of livestock illnesses. The traditional medicine systems predominated in India for control of various ailments in human and animals. In the face of climate change, the growing demand for high quality animal products, and the increasing awareness of One Health concept, consumers across the globe prefers use of safer & eco-friendly products for increased sustainability in animal production. In the context, continued efforts have been made to meet the challenge of developing eco-friendly, alternative medicines for curing various metabolic and infectious diseases.

## **Cows that are well-cared for not only produce high-quality milk but also have a better quality of life.**

### **Diagnostic Facilities**

Inadequate Veterinary diagnostic facilities in India attract huge scope for diagnostics to address the needs of the farmers. For example, early detection of pregnancy, early embryonic death and for diagnosis of metabolic & infectious diseases like Mastitis, Ketosis etc., it will be helpful for dairy fraternity. Many animal healthcare companies have introduced such diagnostic kits. However, those kits are not very convenient and economic to use at farmer's doorstep. Several Indian Research institutes are currently focusing on translational research and to develop newer diagnostics for use at dairy farms. Recognition of diagnostics not simply as a tool for diagnosis of diseases, but also for their prevention, will drive overall health of animals effectively.

### **Digital Revolution in dairy sector**

Health management relies on data collection and analysis to identify trends, monitor performance, and make informed decisions. Digitization of dairy has led to more productivity and less expenses on dairy management in the developed countries. In India, many start-ups have entered into the space and going forward, may bring revolutionary changes in the Indian dairy sector. Utilizing advanced monitoring systems, automated feeding equipment, and health tracking software can streamline management practices and improve outcomes. While we are looking to strengthen the dairy infrastructure by embedding necessary technologies at different levels such as biometrics for cattle identification, IoT devices etc., a great window of opportunity also exists for empowering the farmers by facilitating educational training programs at digital platforms for making dairy business profitable.

Adoption of modern technologies holds a great potential to help the growth in the dairy sector.

### **Holistic Growth**

In recent years, there has been a growing emphasis on holistic growth in the dairy sector, which focuses on sustainable and responsible practices to ensure long-term growth and benefits for all stakeholders. Holistic growth in the dairy sector also emphasizes the importance of investing in animal welfare. This involves providing a safe and comfortable environment for cows, ensuring proper nutrition and healthcare, and promoting natural behaviour. Cows that are well-cared for not only produce high-quality milk but also have a better quality of life. This can lead to increased milk production and a reduction in health problems, ultimately benefiting both the farmer and the animal.

### **Way Forward**

In the dairy sector, India has enormous potential for more production, innovation, and export. To enhance milk production, the country must improve the productivity of animals by emphasizing their health needs through proper feed and fodder. The Government is initiating various activities to improve the genetics of animals to increase productivity and mitigate the risk of diseases. Regular collaboration with veterinarians, nutritionists, and other dairy professionals is key to improved milk production, reproductive efficiency, and overall profitability. Animal healthcare industry has been playing a significant role in disease mitigation, health & nutrition of animals, improving productivity of animals; with significant investment in the veterinary products manufacturing, Industry is able to provide best possible veterinary solutions to the large livestock population. The availability and accessibility of credit financing for small dairy farmers must be improved so that they can upgrade farm management procedures and infrastructure which ultimately enhances milk production.