

Heat Stress in Dairy Animals: The Silent Threat to Milk, Fertility and Farm IncomeSnehal Misal¹, Prashant Prakash Rokade², Ankita Bhosale ³**Simple management practices can help farmers protect animal health and productivity**

India's livestock sector is closely connected with the country's climate, and rising temperatures are becoming an increasing challenge for dairy farmers. During periods of high temperature, animals may struggle to maintain normal body temperature. This condition, commonly known as **heat stress**, can affect feed intake, water consumption, milk production, health and reproductive performance. Heat stress may not always be immediately recognized. However, early identification and appropriate management can help reduce its impact on dairy animals.

How Can a Farmer Recognize Heat Stress?

Animals experiencing heat stress may show signs such as:

- ☞ Rapid or shallow breathing and panting
- ☞ Increased respiration rate
- ☞ Excessive salivation
- ☞ Reduced feed intake
- ☞ Increased water consumption
- ☞ Lethargy or weakness

- ☞ Seeking shade or water
- ☞ Reduced milk production
- ☞ Changes in reproductive performance

The severity of heat stress depends not only on temperature but also on humidity, ventilation, animal characteristics and management conditions.

Water: The First Line of Defence

During hot weather, animals should have continuous access to **clean, cool and potable drinking water**. Adequate water availability is essential for maintaining hydration, body temperature, feed intake and production. Water troughs should be cleaned regularly and placed at convenient locations so that all animals can access them easily. ICAR's livestock advisories emphasize continuous access to clean drinking water during periods of heat stress.

Shade and Ventilation Matter

Providing shade is one of the simplest ways to reduce heat exposure. Animal sheds

Snehal Misal¹, Prashant Prakash Rokade², Ankita Bhosale ³

¹ Division of Animal Genetics and Breeding, ICAR–National Dairy Research Institute, Karnal – 132001, Haryana, India

² Assistant Professor, Department of Veterinary Pathology, M.B Veterinary College Dungarpur, RAJUVAS, Bikaner 314001, Rajasthan, India

³ Division of Livestock Production Management, ICAR–National Dairy Research Institute, Karnal – 132001, Haryana, India

should be well ventilated and should provide protection from direct sunlight. High roofs, adequate air movement and sufficient space between animals can help improve the shed environment. During severe heat, farmers can consider appropriate cooling measures such as fans, sprinklers, foggers or wet gunny sacks, depending on the availability of resources.

Feeding During Hot Weather

Heat-stressed animals often reduce their feed intake. Therefore, maintaining a balanced and palatable ration becomes particularly important. Farmers should provide good-quality green fodder and avoid unnecessary changes in the ration during periods of heat stress. Feeding during cooler parts of the day, such as morning and evening, may also help animals maintain feed intake.

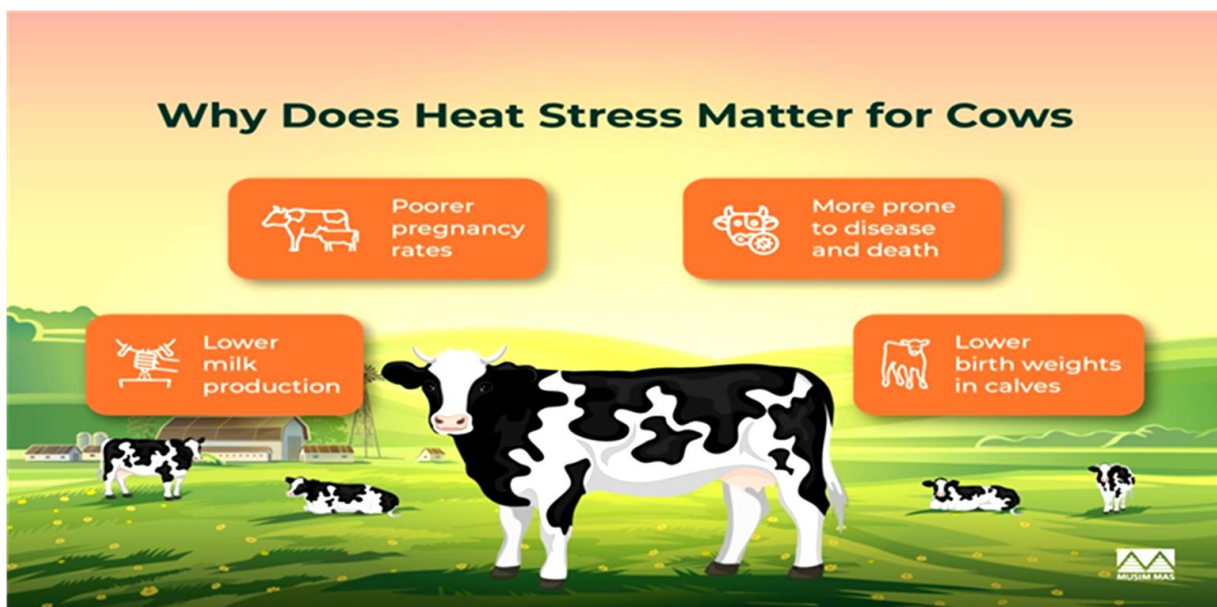
Heat Stress and Reproduction

Heat stress is not only a milk production problem. It can also affect

reproductive efficiency. Changes in feed intake, body condition and physiological responses during heat stress can contribute to poorer reproductive performance. Therefore, farmers should pay particular attention to heat detection, timely insemination and overall reproductive management during hot weather.

Special Care of Buffaloes

Buffaloes are particularly sensitive to heat because they have fewer functional sweat glands than cattle. Providing opportunities for wallowing or other suitable cooling arrangements can therefore be particularly useful where practical and safe.



A Simple Message for Farmers

Shade + Water + Ventilation + Balanced

Feeding + Cooling Management = Better

Protection From Heat Stress

Heat stress cannot always be completely prevented, but its effects can be reduced through timely and affordable management practices. For the modern dairy farmer, **heat-stress management is becoming an essential part of maintaining animal health, productivity and farm profitability.**

References

1. Indian Council of Agricultural Research (ICAR). *ICAR Kharif Agro-Advisories for Farmers 2025*. Livestock advisories on heat-stress management, water, shade, ventilation and feeding.
2. Indian Council of Agricultural Research (ICAR). *ICAR Kharif Agro-Advisory for Farmers*. Recommendations for management of heat stress in dairy animals.