

Research Article

Effect of heat stress on crossbred dairy cattle in tropical Nepal: Impact on blood parameters

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ABSTRACT

Chitwan district of Nepal has been known as the dairy kingdom of the country considering its strategic location and potential to easily provision inputs and produce as well as market quality milk across the country. However, the climate especially during summer has been a challenge to farmers that potentially compromise the daily milk yield of cows. Therefore, sixteen crossbred dairy cattle were placed in a RCBD fashion to assess the impacts of cold water bathing in ameliorating effect of heat stress on their performance and body physiology. Routine assessment of the microclimate within the experimental shed and blood parameters was made. The results from the experiment inferred that frequency of bathing (none, once, twice or thrice a day) did not have any significant impact on Haemoglobin, Haematocrit, Sodium, Potassium, Chloride and Bicarbonate levels in the blood plasma ($p > 0.05$). In addition, the animals did not exhibit any signs of physiological distress clinically either. A detailed study scoping temperature humidity index and over a number of other milk and blood parameters are to be tested across a number of other available breeds too in order for the researchers to come to a meaningful strategy to beat the heat stress.

Keywords: Heat Stress, Salt balance, Haematology

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