

Peer Review

Review of: "Changes in Leukocyte Indices of Holstein Cows Under Prolonged Heat Stress Conditions"

Indunil Pathirana¹

1. Department of Animal Science, University of Ruhuna, Sri Lanka

The present manuscript describes how heat stress exerts a considerable systemic effect on leukocyte profiles and indices, leading to neutrophil-driven responses and suppressing acquired immunity. Overall, the study has followed a proper experimental design, and the manuscript is well-written. This study fills a research gap on the systemic effects of heat stress, which can be diagnosed through the shifts in leukocyte profiles/indices. This study clearly demonstrates clinical/diagnostic value.

In Materials and Methods, the indices used in this study should be defined, e.g., Leukocyte Index (LI), Index of adaptation by Garkavi, etc. The reader should be clearly aware of the indices used and the method of calculation for each index.

The other concern is the considerably higher standard error (SE) in some of the data points given in "Table 1." For example, the CON group of Band Neutrophils, the CON group of Nuclear Shift Index, the CON group of LI, and the HYP group of LGI. These demonstrate a huge variability/dispersion of values among individual animals. This study is based on non-parametric statistical methods and also aimed at leukocyte indices as potential clinical/bio markers of heat stress; therefore, it would be ideal to show the range (lowest-highest) for each index, along with the mean.

Regarding the limitations of the study to generalize the findings, other than the small sample size, a breed limitation may also exist. The present study is limited only to Holstein cows.

Declarations

Potential competing interests: No potential competing interests to declare.