

Peer Review

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

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This paper is definitely a good quality paper. However I found some points that may be focussed on.

Sample Size: The sample size of 18 cows with only 8 in the HYP group is relatively small. While this is a common limitation in animal studies, it could affect the generalizability of the findings. A larger sample size would strengthen the statistical power and the ability to detect subtle differences.

Lack of Longitudinal Data: The study captures a snapshot of the cows' immune responses during heat stress, but it would be valuable to have a longitudinal study that tracks the cows' responses over time, especially regarding the recovery phase post-heat stress.

Limited Discussion on Metabolic Shifts: While the article briefly touches on metabolic changes (lipolysis, protein catabolism, and oxidative stress), the focus on leukocyte indices leaves little room for a detailed discussion of how these metabolic changes influence immune responses. Expanding this section could provide a more comprehensive understanding of the interplay between metabolism and immunity during heat stress.

Environmental Conditions: The study provides useful details on the environmental conditions in the barn including temperature-humidity index (THI) values but it would be beneficial to discuss whether these conditions were representative of typical summer conditions for dairy farms in other regions. The focus on one specific farm in Ukraine may limit the broader applicability of the findings.

Declarations

Potential competing interests: No potential competing interests to declare.