

Peer Review

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

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

General comments

1. The manuscript aimed to investigate the changes in leukocyte indices of Holstein cows under prolonged heat stress conditions. This study is interesting and could be helpful in identifying the markers related to heat stress conditions, and accordingly, managerial interventions could be implemented to augment the productivity and welfare of the animals.
2. The manuscript is well-structured and concluded as per the hypothesis and objectives of the study. However, it needs some clarifications and requires corrections.

Specific comments

Title: Adequate

Abstract: Improvement is required.

1. This study examines... Correct as "This study examined...."
2. Results revealed a 2.2-fold increase in band neutrophils and a 78% elevation in the NSI in response to HS. Is it significant? If significant, then please mention the same.
3. ...significant declines... Please mention the significance level (or p-value).

Introduction

1. Page 2 (Line 2): “blood parameters remain reliable biomarkers of the body's condition in conditions of hyperthermia”. I suggest “blood parameters remain reliable biomarkers of the body's condition in hyperthermia”
2. Page 2 (Line 4): “The objective of this study is to evaluate...” Please replace by “The objective of this study was to evaluate...”

Materials and Methods: Clear and Adequate

Results

1. Page 6 (Line 1): “were 2.2 times higher in HYP compared to CON (p = 0.0035).” Please replace by “was 2.2 times higher in HYP compared to CON (p = 0.0035)”
2. Page 7: The table caption should be written in the proper place (should be above the table).
3. Page 8 (Line 2): This reflects a significant reduction in monocyte levels, which decreased by 73% in HYP (p = 0.0183). Kindly check the reduction rate, “73%”. This should be “42.1%” instead of 73%.
4. Page 8 (Line 4-5): Similarly, lymphocyte levels decreased by 31% in HYP compared to CON (p = 0.0404). Kindly check the reduction rate, “31%”. This should be “23.7%” instead of 31%.
5. Page 8 (Line 6): The LGI decreased by 71% in HYP (p = 0.0528). Please check the value of the reduction rate, i.e., 71%.
6. Page 8 (2nd para, Line 3-4): However, the IAG, which assesses the organism's adaptive capacity, showed a substantial reduction of 1.3 times (75%) in HYP compared to CON (p = 0.0139). Please check the values (1.3 times & 75%).

Discussion

1. Page 9 (2nd para): These changes were further reflected in the LGI, which decreased by 71%, emphasizing the shift towards granulocytic dominance. Similarly, the 75% reduction in the IAG suggests compromised adaptive capacity under thermal stress. The values (71% and 75%) are not correct, please check.

Conclusion: Clearly written as per the hypothesis and objectives of the study.

Attachments: available at <https://doi.org/10.32388/66ACQF>

Declarations

Potential competing interests: No potential competing interests to declare.