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### Seasonal variations in haematochemical profile of Cholistani AI bulls

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The objectives of the present study were to a) ascertain baseline data on haematochemical profile and b) to assess their variation under different seasons in adult Cholistani AI bulls (n=06) being reared at semen Production Unit (SPU), Karaniwala, Bahawalpur, Pakistan. To determine the variation, 4 seasons of 2 months duration each were defined viz. i) stress free autumn (October-November), ii) stressful winter (December-January), stressful dry summer (May-June) and iv) stressful wet summer (July-August). Blood collection was carried out fortnightly during the study period and a total of 16 blood/blood serum samples were collected per animal (24 samples per season). Amongst the red blood cell values, only haemoglobin (Hb) revealed a significant ( $P<0.05$ ) effect of season, being lower in stressful winter season and higher in the remaining three seasons. Amongst the white blood cell values, Total Leukocytic Count (TLC) was found to be significantly higher ( $P<0.05$ ) in dry summer. Serum chemistry analyses revealed that  $\text{Na}^+$  was significantly higher ( $P<0.05$ ) and  $\text{K}^+$  was significantly lower ( $P<0.05$ ) in stress free autumn. Cholesterol was significantly higher ( $P<0.05$ ) in winter, whereas glucose was higher in dry summer. The present study revealed that the Cholistani AI bulls had an amazing tendency to maintain most of their haematochemical parameters at a near constant level during stress free or stressful times which is suggestive of their adaptability under harsh stressful climates without showing any signs of stress.

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