

# The investigation of physiological, blood biochemical and hematological parameters of ostrich during the cool and warm seasons <sup>(1)</sup>

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## Abstract

This study investigated the changes in physiological and blood biochemical values at 4-6-month-old ostrich during the cool season (January to February) and warm season (June to August) to understand the effect of different seasons' changes on the performance of ostrich. The results showed that the ostrich barn's environmental temperature, humidity and THI value were significantly different in the cool and warm seasons ( $P < 0.05$ ). The respiratory rate of the ostriches in the cool and warm seasons was  $14.6 \pm 6.0$  and  $22.0 \pm 13.9$ , respectively, which had a significant difference ( $P < 0.05$ ). between the two seasons. The biochemical blood values of glucose, AST, ALT, ALP, Ca, glucocorticoids, IgA, and IgG were significantly higher than those in the warm season ( $P < 0.05$ ). Meanwhile, the albumin/globulin ratio and potassium values were significantly higher in the cool season than in the warm season ( $P < 0.05$ ). The results of the hematology analysis showed that the values of PCV, RBC, Hb, MCHC, basophils and platelets of ostrich were significantly lower ( $P < 0.05$ ) than that in the warm season. The ratio of heterotrophic cells/lymphocytes of ostrich in the warm season was significantly higher than in the cool season ( $P < 0.05$ ). Most of the physiological values in this survey were within a reasonable range, indicating that ostriches have good adaptability to low temperature and humidity in the cool season and high temperature and dryness in the warm season in Taiwan.

Key words: Ostrich, Blood biochemical, Hematology.

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