

Physiological Indicators and Stress Index of Scavenging Chickens at Lafarge and Dangote Cement Factory Areas of Ogun State

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Abstract : This study was carried out to determine the physiological and stress index of scavenging chickens in LAFARGE (Ewekoro) and Dangote (Ibese) Cement Factories Area of Ogun State. One hundred adult scavenging chickens comprising of 25 chickens from LAFARGE, Dangote and respective adjoining communities (Imasayi and Wasimi) were used. Experimental birds were caught at night on their perch and kept in cages till the next morning. Data were collected on rectal temperature, pulse rate, and respiratory rate of the birds. Also, 5ml blood was collected through the wing vein of the chickens in each location using a sterilized needle and syringe and transported to laboratory for analysis. Significant ($P<0.05$) highest pulse rate (215.64 beat/minute) and respiratory rate (19.90 breaths/minute) were recorded among scavenging chickens at LAFARGE (Ewekoro) Area and the least (198.61 beat/minute and 16.93 breaths/minute, respectively) at Imasayi. There was no significant ($P>0.05$) difference in the rectal temperature of the birds in the study area. Significant ($P<0.05$) differences were also recorded in the Packed Cell Volume (PCV), Hemoglobin (Hb), White Blood Cell (WBC), Monocyte, and Glucose level of the chickens in study area with the highest ($P<0.05$) Packed Cell Volume (28.06%) and Haemoglobin (4.01g/dl) recorded in Ibese and the least Packed Cell Volume (22.00%) and Haemoglobin (288g/dl) in Imasayi. Highest ($P<0.05$) Monocyte (4.28%) and glucose (256.53g/dl) were recorded among scavenging chickens at Dangote (Ibese) while the least Monocyte (0.00%) and Glucose (194.53g/dl) was recorded among chickens at Wasimi. Highest ($P<0.05$) White Blood Cell ($6488.89\times 10^3\mu\text{l}$) was recorded among chickens at Ewekoro and the lowest value in Ibese ($4388.44\times 10^3\mu\text{l}$). There was no significant ($P>0.05$) difference in the Heterophyl, Lymphocyte, Basophyl and Heterophyl/Lymphocyte ratio of the chickens in the study Area. The study concluded that chickens reared at LAFARGE (Ewekoro) were stressed and had comprised welfare and health status compared to Dangote (Ibese) cement area and other agrarian communities. Effective environmental mitigation programme should be put in place to enhance the welfare of the scavenging chickens in LAFARGE Cement Factory Area.

Keywords : blood, chicken, poisonous substances, pack cell volume, communities

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