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## Relationship between heat stress perception and adaptation strategies of poultry farmers in Bauchi state, Nigeria

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### Abstract

Nigeria’s poultry industry is expanding, especially since the government prohibited the importation of live or dead birds and frozen poultry and bird’s eggs. This contributes to the growth of the industry. However, on the other hand, heat stress has been shown to have a negative impact on poultry production in Nigeria and other tropical countries. The study examined the relationship between heat stress perception and adaptation strategies of poultry farmers in Bauchi State, Nigeria. A multi-stage sampling technique was used to select 240 registered poultry farmers for the study. The poultry farmers’ information was gathered using a structured questionnaire. Result of the study revealed that majority (75.0 %) of the poultry farmers perceived a poor eggshell quality, reduction in egg size (79.2 %), difficulty in breathing (72.5 %), high mortality rate (75.8 %) and 64.2 % reported low response to treatment in their flocks. To mitigate the effects of heat stress on their birds, poultry farmers in the study area adopted the following adaptation strategies.; less heat supply (87.2 %), planting trees around the pen (88.3 %), creating more space per bird (96.7 %), change in feed formulation (60.0 %) and well-ventilated houses (94.2 %). The correlation result revealed a positive relation between slow growth rate and change in feed formulation ( $r^2=0.234^{**}$ ), increase in water intake and less heat supply ( $r^2=0.999^{**}$ ) and poor eggshell and provision of well-ventilated house ( $r^2=0.195^{**}$ ). Based on the findings of this study, we recommend that poultry farmers acquire more training on heat stress adaptation strategies on poultry sector resilience and to adapt with changing climate.

**Keywords:** Adaptation, climate change, heat stress, Nigeria , poultry