

PHENOTYPIC CORRELATIONS AND PREDICTION OF BODYWEIGHT AND BODY SIZE PARAMETERS IN BROILER CHICKENS

Olowofeso, O.

*Department of Animal Production & Health,
Federal University of Technology, P.M.B. 704, Akure, Nigeria
E-mail: olowofesoinfuta@yahoo.com*

ABSTRACT

To determine phenotypic correlation between bodyweight and body size traits and to develop prediction equations for chicken's bodyweight using some body size parameters as predictor variables, a total of seventy-five day old unsexed Anak White strain chicks were procured from a reputable hatchery and used as experimental animal for eight weeks. The birds were brooded for the first two weeks under standard management practices. Thereafter, the birds were randomly assigned into five treatments in a completely randomized design pattern in which sun dried, yeast treated orange rind (peel) were incorporated as test ingredient along with other feedstuffs and supplied to the birds. The diets and water were made available *ad libitum* to the birds and measurable body traits such as bodyweight (BW), shank length (SL), sternum or breast-bone length (SL'), neck length (NL) and chest width (CW) were taken weekly. For the seventy-five broiler chickens managed intensively, the final values obtained were 169.90 ± 1.30 kg, 774.30 ± 2.70 cm, 719.40 ± 1.80 cm, 822.10 ± 2.60 cm and 1622.00 ± 6.10 cm, for BW, SL, SL', NL and CW respectively at 8 weeks of age. Regression coefficient (P) and phenotypic correlation (rp) between these measurable traits were computed so as to know the level and nature of their relationships. In this study, P oscillates between 0.20 and 2.40, while rp was between 0.92 and 1.00 respectively. From the association of these few traits, a total of ten prediction equations were developed. The study therefore provides the level of relationships between the measured traits and the developed prediction equations would be very useful to the poultry breeders.

Keywords: correlation, prediction, quantitative traits, broiler chickens