

## News

# Body Length, Shank Length and Breast Circumference Can be Used to Predict Body Weight

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Under a traditional family-based scavenging management system, native chicken is widely spread (95.86%) across several agroecological zones in Ethiopia. Morphometric attributes are quantitative evaluations of an organism's size, shape, and other physical characteristics.

According to reports, determining live body weight from linear body measurements is a useful and simple procedure, especially for rural chicken breeders who are short on supplies and equipment. Characterization of indigenous chickens is a vital prerequisite for the development of indigenous breeds and rural poultry development.

The purpose of this study was to create a prediction model for calculating body weight using linear body measures of Ethiopian native chickens as well as to ascertain the link between body weight and linear body measurements.

From three agro-ecologies (120 from lowland, 200 from midland, and 200 from highland), 520 adult hens were chosen at random (130 males and 390 females). Each experimental chicken's body weight was determined using a spring scale. Statistical Package for Social Science (SPSS) and the Statistical Analysis System (SAS) was used to analyze the data (SPSS).

It demonstrates a substantial ( $p > 0.05$ ) relationship between body weight and the linear body measurements, including body length, chest circumference, shank length, and wingspan. However, there was no significant ( $p > 0.05$ ) correlation between body weight and the dimensions of the beak, comb, ear lobe, shank, and wattle. A total of 520 adult hens were chosen at random from three agro-ecologies (130 males and 390 females) (120 from lowland, 200 from midland and 200 from highland). Each experimental chicken's body weight was determined using a spring scale. According to the studies male chickens performed better than female chickens for measurable qualities, which is in line with the findings of the current study. This suggests that sex is the primary factor causing differences in observable features of indigenous chickens of Ethiopia.

According to the study's findings, body weight and linear body parameters had a favourable link. Additionally, it stated that linear body measures might be used to estimate body weight. In comparison



to the other linear body parameters, the body length, snout length, and breast circumference had the highest slopes and were selected to predict the body weight of Ethiopian indigenous chickens.

A selection program for genetic improvement of body weight gain in native chickens of Ethiopia could consider such a link. To develop a breeding program for the genetic improvement of body weight in Ethiopian indigenous chickens, it is, therefore, preferable to apply selection based on body length, shank length, and breast circumference.

#### **JOURNAL REFERENCE**

Bekele, B., A. Melesse, W. Esatu and T. Dessie, 2021. Statistical modeling of live body weight and linear body measurements of local chicken at different agro-ecologies of Ethiopia. *Int. J. Poult. Sci.*, 20: 146-151.

#### **KEYWORDS**

Agro-ecology, body weight, indigenous chickens, linear body parameter, predictive model

