

Comparative Study of Egg Characteristics of White Leghorn and Naked Neck Chicken for Table Eggs

***M. G. Mohamed Thariq¹ and R. M Nikzaad¹**

¹Department of Biosystems Technology, Faculty of Technology,
South Eastern University of Sri Lanka, Sri Lanka

* mgmthariq@seu.ac.lk

The quality of hens' eggs is central in purchasing for consumption. The present study investigated the egg weight and the shell characteristics of White Leghorn and Naked neck chickens for table eggs from the coastal areas of Ampara district of Sri Lanka. The egg weight, shell thickness, and shell weight were recorded from White Leghorn (n=60) fed with commercial feed and Naked neck chicken fed on free range (n=60) using recommended methods. The data were analyzed statistically using SPSS (version 25) software. The mean egg weight was significantly higher ($p < 0.05$) in White Leghorn ($60.23 \pm 3.57\text{g}$) compared to Naked neck chickens ($42.70 \pm 5.17\text{g}$) while shell thickness was significantly higher ($p < 0.05$) in Naked neck chickens ($0.75 \pm 0.14\text{mm}$) compared to White Leghorn ($0.24 \pm 0.10\text{mm}$). No significant difference ($p < 0.05$) was observed in shell weight between the two breeds. The correlation of egg weight with shell weight (-0.068) and shell thickness (0.020) as well as the correlation of shell thickness with shell weight (-0.061) was negligible in White Leghorn. However, in Naked neck chickens, the correlation of the egg weight with shell thickness (0.266) and shell weight (0.28) was significant ($p < 0.05$) and weak positive. Likewise, the correlation of the shell thickness with shell weight was significant and weak positive (0.281, < 0.05). The study concludes that the egg weight was higher in White Leghorn and falls under the category of extra-large (60 g and above) and in Naked neck chickens small (38 g – 44 g) according to the Sri Lankan Standards. In White Leghorn, the shell thickness and shell weight were independent of egg weight, while in naked neck chickens, with the increase of egg weight, the shell thickness and shell weight tend to increase. It is recommended that for larger sizes, consumers can select White Leghorn's eggs while naked neck chicken eggs can be chosen for their thicker shell.

Keywords: Egg weight, Shell thickness, Shell weight, Egg preference