Nutritional composition of the eggs of Village chicken, White Leghorn and White Plymouth Rock breeds

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About 1.3 million of Village chicken hens in Sri Lanka contribute to 15% of the national egg production per year. Village chicken egg is one of the cheapest sources of animal protein available for the rural communities in Sri Lanka. However, protein and fat contents of albumen and yolk were considered to vary among different breeds of chicken. Objective of this study was to determine the differences among egg weights, egg contents (albumen : yolk : shell weight), and protein, fat and ash percentages of egg albumen and yolk of village chicken (VC), White Leghorn (WL) and White Plymouth Rock (PR) breeds. Random samples of adult hens from the three breeds considered (VC, WL and PR) were managed intensively providing the standard layer ration *ad libitum*. Village chicken sample was a collection of birds from different areas of Sri Lanka. Eggs were collected randomly and the weight of whole egg was recorded. Weights of albumen, yolk and, shell (with shell membrane) were determined after separating into the components for calculation of component percentages. Crude protein (CP), ether extract (EE), dry matter (DM) and ash contents of eggs were determined by using standard AOAC procedures. The differences among breeds with respect to the above parameters were determined using the ANOVA procedure. Means of the breeds were compared using Duncan's Multiple Range Test procedure at 95% significance level.

Mean egg weight of White Leghorn, White Rock and Village chicken were 61, 53 and 44 grams, respectively, which were significantly different among each other ($P<0.0.5$). However, eggs of all three breeds followed the standard ratio of white : yolk : shell weights (5 : 3 : 1) similarly. Estimate of protein percentage of egg albumen of Village chicken (96.34%) was significantly lower than those of White Leghorn and White Plymouth Rock (99.63% and 99.34% respectively). However, fat and ash contents of the egg albumen were not significantly different among the breeds ($P>0.05$). Yolk fat percentage of Village chicken (52.42%) was significantly lower than those of White Leghorn and White Plymouth Rock breeds (64.69% and 60.31%, respectively). Protein and ash contents of yolk were not significantly different ($P>0.05$). As the fat content of village chicken eggs as a whole was lower than that of the other breeds, consumption of village chicken eggs was concluded to be healthier than that of eggs from the two western breeds considered.

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