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Egg Quality Characteristics of Four Chicken Strains in South-western Nigeria

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Abstract

This study was carried out at the Poultry Unit of the Teaching and Research Farm of the Federal University of Technology Akure, Ondo State, Nigeria to compare the egg quality characteristics of four selected chicken strains in South-western Nigeria. A total of 100 hens at 16 weeks old were purchased from reputable farms in Abeokuta, Ogun State, Nigeria. The birds were distributed according to their strain; normal feather, frizzled feather, naked neck and marshall broiler in a completely randomised design at 30 birds per strain, except frizzled feather strain (FF) that were 10 in number and the study lasted for 22 weeks. The birds were fed conventional layers diet at 125 g/bird/day during the period of the study. A total of 1,000 eggs at 300 per strain, but 100 for FF, were collected between the 28^{th} and 38^{th} week of the experiment and used for internal and external egg quality analyses. Analytical results showed that most internal and external egg quality characteristics were significantly different ($p < 0.05$) based on strain. Out of these Nigerian indigenous strains, the FF had the highest egg weight, egg height, yolk weight, yolk width and shell colour intensity after the marshall broiler strain. Significant differences ($p < 0.05$) were also observed in the shell thickness of the chicken strains with normal feather and FF having the highest (0.34mm) and lowest (0.28mm) values respectively. It was concluded that the FF strain showed the greatest potential for improvement based on its competitive statistical values for all measured parameters among the Nigerian indigenous strains.

Keywords: Chicken eggs, Egg weight, Genetic improvement, indigenous chicken, Shell thickness

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