

## Evaluation of the effect of a modified proprietary poultry feed on cholesterol excretion in laying birds

Chris Oche IKESE\*,<sup>1</sup> Simon Terver UBWA,<sup>1</sup> Sunday Ogakwu ADOGA,<sup>1</sup>  
Stephen Inegedu AUDU,<sup>2</sup> and Michael AKOR<sup>1</sup>

<sup>1</sup>Department of Chemistry, Benue State University, Makurdi, Nigeria

<sup>2</sup>Department of Chemistry, Nasarawa State University, Keffi, Nigeria

**Abstract.** The effect of modified proprietary poultry feed on cholesterol excretion in laying birds was evaluated. The study sort to lower the cholesterol content of eggs at the point of their physiological formation via a modification of the proprietary feed fed to laying poultry birds. This was with a view to lower the net cholesterol content in their eggs, thereby lowering the cholesterol levels available in such eggs for intake upon consumption. A 20% rice bran modification of the proprietary feed was made. Animal subjects were divided into experimental and control groups and the mean total cholesterol in their faecal droppings where determined before and after varying their feeding programs. Whereas the experimental group was fed with the modified feed, the control group was maintained on the unmodified feed. Enzymatic colorimetric method was used for the determination of mean total cholesterol in the dried faecal droppings of each group of birds under investigation. The results showed that the mean total cholesterol excretion before and after the modified feed regimen were  $5.97 \pm 0.16$  mg/g and  $9.99 \pm 0.47$  mg/g respectively and were found to be significantly different when compared using a *t*-test at  $p > 0.05$  and 49 degree of freedom The results also showed that the modified proprietary poultry feed increased total cholesterol excretion in the faecal droppings of laying birds fed with the modified feed by 67.3%, and this was found to be statistically significant at  $p > 0.05$ . Hence, a 20% rice-bran modification of the proprietary feed yields a modified feed with a proven potency in elevating total cholesterol excretion while producing no drastic deviation from the proximate composition of the unmodified proprietary feed and is thus likely to have no adverse effect on the productivity of laying birds.

**Keywords:** cholesterol; cholesterol excretion; laying birds; modified poultry feed; rice bran.

\* Corresponding author. *E-mail address:* chrisjieng@gmail.com (Chris Oche Ikese)