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Performance and Early Lay Characteristics of Growing Pullets Fed Graded Levels of Rumen Filtrate fermented Corn cobs

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Abstract

A study was designed to evaluate the inclusion of rumen filtrate fermented corn-cobs (RFFCC) at the expense of maize in growing pullet diet. Corn-cob was fermented for twenty days using fresh bovine rumen filtrate as the inoculum. The dried fermented product was substituted for maize in practical diets on a weight for weight basis at 0, 12.5, 25, 37.5 and 50%. The resulting five diets were fed in mash and pellet form. One hundred and twenty (8 weeks old) pullet of a commercial strain were selected from a larger flock and distributed into 10 groups of 12 birds each after balancing for liveweight. The 10 groups were randomly allocated to the five dietary treatments (mash and pellet form) for a feeding duration of 112 days using a 2 x 5 factorial design. Increasing the level of RFFCC at the expense of maize significantly ($P<0.05$) reduced feed intake, body weight at first egg and at 10% production while age at first egg and at 10% production was significant prolonged. Increasing concentration of RFFCC resulted in a reduction ($P<0.05$) in crude protein and crude fibre retention. Level of RFFCC had no effect on egg shape index, yolk index, shell thickness and shell weight ($P>0.05$) but significantly ($P<0.05$) deepens the yolk colour. Pelleting of diet resulted in a significant increase in the body weight at 1st egg and 10% production. Weight of 1st egg on pelleted diet and weight of egg at 10% production were 23.51 and 11.86% heavier than eggs produced by birds on the mash feed ($P<0.05$).

Keywords: Performance, Pullets, Corn-cob, Rumen filtrate, Fermentation, Nutrient retention.