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“Bridging the gap between increasing knowledge and decreasing resources”

Nutritional and Economic Implications of Cashew Reject Meal in Diets of Laying Chickens

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Abstract

The nutritional and economic implication of cashew rejects meal (full fat and defatted) as replacement for groundnut cake (GNC) in the diets was evaluated. Eighty four brown shavers at 25 weeks of age were randomly allotted into seven dietary treatments each containing six replicates of two birds. The seven diets prepared included diet 1, a control with GNC at 220 g kg⁻¹ as main protein source in the diet. Diets 2, 3 and 4 consisted of gradual replacement of GNC with defatted cashew reject meal (DCRM) at 50 %, 75 % and 100 % on weight for weight basis, respectively, while diets 5, 6 and 7 consist of gradual inclusion of full fat cashew reject meal (FCRM) to replace 25 %, 35 % and 50 % of GNC protein, respectively. Each group was allotted a diet in a completely randomised design in a study that lasted eight weeks during which records of the chemical constituent of the test ingredients, performance characteristics, egg quality traits and economic indicators were measured. Results showed that the crude protein were 22.1 and 35.4 % for FCRM and DCRM, respectively. Gross energy of DCRM was 5035 kcal kg⁻¹ compared to GNC, 4752 kcal kg⁻¹. Result of aflatoxin B1 revealed moderate level between 10 and 17 µg kg⁻¹ in CRM and GNC samples, respectively. Birds on control diet gained 10 g, while those on DCRM and FCRM gained about 35 g and 120 g, respectively. Feed intake declined ($p < 0.05$) with increased level of FCRM. Hen day production was highest in birds fed DCRM, followed by control and lowest value ($p < 0.05$) was recorded for FCRM. No significant change ($p > 0.05$) was observed for egg weight and shell thickness. Fat deposition and cholesterol content increased ($p < 0.05$) with increasing level of FCRM. The cost of feed per kilogram decreased gradually with increased inclusion level of CRM. The prediction equation showed the relative worth of DCRM compared to GNC was 92.3 % whereas the actual market price of GNC triples that of DCRM. It was recommended that GNC could be completely replaced by DCRM in layer's diets in regions where this by product is abundant. However, FCRM should be cautiously used in diets of laying chickens.

Keywords: Cashew rejects meal, chemical constituents, economy, laying hens, performance