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Response of broiler chicken to different levels of replacement of boiled bambara seeds (*Vigna subterranean* verdc) for super-concentrate

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Abstract

The objective of the study was to assess the response of broiler chicken to different levels of replacement of boiled Bambara seeds (*Vigna subterranean* verdc) for super-concentrate. Growth performance and carcass characteristics were studied. Two hundred one-day-old un-sexed Ross (308) chicks were used in a completely randomised design. Bambara seeds replaced super-concentrate at (0, 25, 50, 75, and 100 %). Chicks were randomly divided into five dietary treatments; each of them was further divided into 4 replicates of 10 birds each. The chicks were reared from one- day-old to six week of age in 20 pens (1 × 1 m) with wood shavings litter. The experiment was conducted in an open- sided poultry house. Five iso-caloric and iso-nitrogenous starter and finisher diets were formulated according to National Research Council (NRC, 1994). Feed intake (FI), body weight gain (BWG), feed conversion ratio (FCR) and Protein efficiency ratio (PER) were determined weekly on a pen basis. The results regarding chemical composition of Bambara seeds indicated positive nutritional components as it includes relatively high protein (16 %). Feed intake and body weight gain during starter and grower phase were significantly (P 0.05) decreased with the increased of boiled Bambara seeds. On the other hand, finisher and overall feed intake for birds on 25 % replacement were not significantly (*p*geq 0.05) different when compared to control. Dressing% was significantly (*p*leq 0.05) reduced for birds at 75 % and 100 % replacement versus those fed other diets. Based on the current findings, it could be concluded that only 25 % super-concentrate can be replaced by boiled Bambara without any deleterious effects on FI, FCR, PER and dressing%.

Keywords: Bambara seeds, broiler performance, carcass