

The feeding value of cocoyam (*Colocasia esculenta*) meal as a substitute for traditional energy sources in broilers.

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Abstract

Three experiments were conducted to evaluate the feeding value of raw and processed cocoyam (*Colocasia esculenta*). The tubers were dried in a solar drier, milled and used to formulate isonitrogenous, isocaloric diets. These diets were fed to day old chicks for a period of four weeks. In the first experiment, the chicks were put on diets containing 0, 29 and 58 per cent cocoyam meal or cassava meal. The chicks on cocoyam based diets gained 299g, which was significantly lower than 499g and 580g obtained from chicks on cassava and maize based diets. Feed conversion efficiency of 2.93 for cocoyam based diets was significantly ($P < 0.05$) lower than 2.73 and 1.99 obtained in chicks on cassava and maize based diets respectively. In the second experiment, cocoyam meal was included in the diet at the rate of 29%. The cocoyam was either raw, peeled, treated with hot water or fed with 2% CaCO_3 caused a slight increase in weight gain. In the third experiment, cocoyam meal constituted either 29% or 58% of the diet, while CaCO_3 included in the diet ranged from 0% to 4%. Chicks on the higher level of cocoyam meal receiving either 0% or 4% CaCO_3 gained 361 g and 387g respectively. At the lower level of cocoyam, with calcium CaCO_3 at 1 %, 2% and 3%, weight gain was 479g, 471 and 441g respectively. At high levels of cocoyam meal, CaCO_3 had no significant effect ($P < 0.05$) on live weight gain. With an effective processing method like cooking to overcome the irritant which was suspected to cause the poor performance and with amino acid supplementation to compensate for losses during processing, cocoyam meal may serve as a substitute for maize at the lower level of inclusion.