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Full Fat Soybean Meal as a Substitute for Soybean Meal in Broiler Rations

Authors : R. M. K. S. Chandana, A. P. D. G. Pathirana, N. Priyankarage, W. A. D. Nayananjalie, S. S. P. Silva

Abstract : Full fat soybean meal (FFSBM) has been used in many parts of the world together with solvent-extracted soybean meal (SBM) in livestock feeds. Although some local FFSBM is available, their use has not been assessed experimentally. This study was carried out to evaluate the use of local extruded FFSBM in broiler rations. Four treatment diets were formulated by incorporating locally produced FFSBM (0, 10, 20, and 30%) as a replacement for soybean meal (SBM) in a two-phase (starter and finisher) feeding program. Two hundred Hubbard F 15 day old broiler chicks were randomly assigned into four treatments with five replicates per each. Bodyweight gain (BWG), feed intakes (FI), and feed conversion ratio (FCR) were calculated for a period of 42 days. Nutrient utilization in the form of dry matter (DM), energy, nitrogen, and fat retention were estimated by the total collection method in three weeks old broilers. At the end of the experiment, carcass weight was measured, and the dressing percentage was calculated. Data were analyzed using one way analysis of variance (ANOVA) in SAS. There was no significant effect of FFSBM on feed intakes of chicks fed different diets ($p > 0.05$). Birds fed the control diet, and FF10 (10% FFSBM diet) gained significantly more than that of birds fed FF20 or FF30 diets ($p > 0.05$). In the finisher period, control birds gained more than all the other treatment birds. FCR was poorer in bird fed higher levels of FFSBM compared to the control or FF10 birds during their early life, but that was not evident in the latter part of the experiment. Treatments did not alter ($p > 0.05$) the retention of DM and nitrogen, but energy utilization was lowest ($p < 0.05$) in birds fed with 0% FFSBM, and the highest fat digestibility was observed in birds fed with 30% FFSBM diets. Thus, it can be concluded that FFSBM can be used as a substitute for SBM in broiler rations and could be incorporated up to 10% of the diet safely with no adverse effects on broiler performances.

Keywords : body weight, broiler, digestibility, full fat soybean meal, soybean meal
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