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Title: PROCESSING AND UTILIZATION OF EXPELLER PRESSED MUSTARD SEED CAKE IN BROILER RATION

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**Abstract:** The present experiment was designed to study the processing and utilization of expeller pressed mustard cake in broiler ration. Three hundred and fifty (350) day old commercial broiler chicks were procured from a from Growell hatchery, Bokaro, Jharkhand for the experiment. Chicks were weighed and divided randomly in seven groups, namely T1, T2, T3, T4, T5, T6 and T7 in such a way that their mean body weight did not differ significantly. Chicks in each group were further divided into five replicates of 10 birds in each. Birds were kept on deep litter system in well lighted and ventilated rooms. 2 Broiler starter and finisher rations were formulated containing various nutrients as suggested by ICAR (1998) according to experimental plan. The control (T1) group contained GN cake as protein supplement whereas in group T2, T3, and T4 it was replaced with Exp. MSC at 25%, 50% & 75% level respectively (on protein equivalent basis). The ingredient composition of treatment groups T5, T6 and T7 were similar to T2, T3 and T4 but the MSC will be treated with 0.4% copper sulfate. The body weights of individual birds were taken at weekly intervals. The feed consumption of each replicate was recorded at weekly intervals. The experiment continued for 6 weeks period and then metabolic trial was conducted on 5 birds from each group following standard procedure. Important findings of the experiment were as follows: The average weekly feed consumption in various experimental groups did not differ significantly indicating that ration containing Exp. MSC either untreated or copper sulphate treated were equally palatable as GNC containing rations. The total gain of live weight in 6 weeks period did not differ significantly. The finding indicated that the GNC replaced with Exp. MSC up to 75% level, on protein equivalent basis had no adverse effect on growth of the broiler chicken. The treatment of Exp. MSC with 0.4% copper sulphate did not show beneficial effect compare to untreated Exp. MSC. 3 The average daily retention of Nitrogen and Nitrogen retention as percentage of N-intake in various groups did not differ significantly, indicating that utilization of nitrogen was optimum in all groups. The average daily retention of calcium was significantly lower in T1, T2 and T5 groups compare to T3, T4, and T7 groups. Ca-retention as percentage of Ca-intake was significantly lower in T1, T2 and T5 groups. The results indicated that Ca-intake (g/day) as well as Ca-retention was significantly more on high level of MSC containing diets. The average daily retention of phosphorus was significantly higher in Exp. MSC containing groups which corresponded to significantly intake of phosphorus. The protein efficiency ratio in different experimental groups did not differ significantly indicating that protein quality of Exp. MSC was equally good as that of GNC protein. The feed conversion ratio (FCR) in different groups did not differ significantly indicating that birds utilized feed consumed with equal efficiency for the gain in body weight. The carcass characteristics of broiler chicken in different experimental groups did not differ significantly indicating that feeding of Exp. MSC had no adverse effect on carcass characteristics. 4 The average organoleptic test scores in respect of taste and overall acceptability of meat of the broiler chicken did not differ significantly finding indicating that feeding of Exp. MSC had no undesirable effect of meat quality. The incorporation of Exp. MSC at various levels reduces the total cost of feed in the ratio of the incorporation. The average cost of feed per kg gain in body weight was found to be lower in Exp. MSC containing ration.

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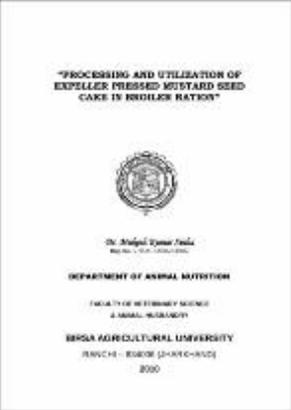
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