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Research Article

INFLUENCE OF BIOCELLULASE ON GROWTH PERFORMANCE OF NANDANAM COLOR BROILERS

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ABSTRACT
Individual supplementation of corn-based broiler diets with exogenous biocellulase was assessed in 240 straight run day old Nandanam color broiler chicks, which were randomly distributed to four treatments, of two replicates, each containing 30 chicks. The broilers were fed with standard broiler starter and finisher ration without, 25, 50 and 100g of Biocellulase enzyme per tonne of feed (Biocellulase – 8000 units per g). This experimental diet was fed *adlibitum* up to 8 weeks of age. Performance was assessed for live body weight at biweekly intervals. Body weights were not significantly influenced by biocellulase enzyme supplementation at all inclusion levels in all age groups except 2nd week body weights. It can be concluded that the inclusion of biocellulase in feed has not significantly influenced the growth performance in Nandanam color broilers.

Key Words: *Broiler, Enzyme, Biocellulase, Growth Performance*

INTRODUCTION
Digestive system of birds lacks the ability to produce enzymes those are needed for the digestion of non starch polysaccharides. Poultry feed contains considerable amount of non starch polysaccharides and will go unutilized due to lack of enzymes. Inclusion of enzymes in the diet reduces their viscosity and thus their fullest utilization of NSP is mediated. Hence, the present study was undertaken to analyze the effect of biocellulase on growth performance of Nandanam color broilers.

MATERIALS AND METHODS
The biological trial of eight weeks duration (0-8 weeks) was carried out with 240 day old straight run chicks of Nandanam color broilers. The chicks were weighed, wing-banded and distributed equally and randomly into four treatment groups (T0, T1, T2 and T3), of two replicates. All the birds were raised under deep litter system of management and standard feeding and other management practices were followed. The per cent ingredient and nutrient composition of the diet for treatment groups are furnished (Table 1).

Table 1: Composition of the ration

Sr. No.	Ingredients	Starter Mash (0-5 Weeks)	Finisher Mash (6-8 Weeks)
1	Maize	56	53
2	Broken rice	-	7
3	Deoiled GNC	10	-
4	SFOC	12	13
5	Soyabean meal	10	15
6	Fishmeal	10	10
7	Mineral mixture	2	2
8	Total	100	100
9	CP (%)	22.96	21.02
10	ME (Kcal/kg)	2893.4	2904.8
11	Calcium (%)	1.23	1.22
12	Phosphorus (%)	0.85	0.86
13	Lysine (%)	1.10	1.10
14	Methionine (%)	0.55	0.57

The dietary treatments were control – T0 with no enzyme, T1 T2 and T3 were 25, 50 and 100 g of biocellulase enzyme per tonne of feed (Biocellulase-8000 units per g, Biokon India Ltd.) as supplementation. Feeding was carried out up to eight weeks of age. Data on body weight at 2, 4, 6 and 8 weeks were recorded and subjected to analysis of variance as per Snedcor and Cochran (1989).

RESULTS AND DISCUSSION

The means for live body weights observed to range from 134.98 to 155.64, 317.68 to 335.37, 593.32 to 640.07 and 998.42 to 1028.40 g for 2nd, 4th, 6th and 8th week age groups respectively (Table 2).

Table 2: Growth performances of broilers

	Mean Squares	T0	T1	T2	T3
2nd Week	4437.979*	148.82±3.14[b] (60)	155.64±2.57[b] (59)	134.98±3.26[a] (60)	147.93±2.76[b] (60)
4th Week	3415.486NS	331.30±8.29 (60)	335.37±6.23 (59)	317.68±7.68 (60)	327.93±7.82 (60)
6th Week	24843.72NS	593.32±12.03 (60)	640.07±12.11 (59)	625.45±10.25 (60)	631.35±16.07 (60)
8th Week	11468.18NS	1028.40±17.74 (60)	1008.74±22.87 (59)	999.62±16.76 (58)	998.42±15.72 (60)

Means bearing the same superscript within classes do not differ significantly
**(P<0.05)*

Mean body weights at 2nd week age group in different treatments showed significant variation (P<0.05) and the effect is not significant for other age groups. Similar findings were reported by Aravind Bhat (1991), Ananda Kumar (1993), Raju *et al.,* (2004) and Rekhate *et al.,* (2010). It can be concluded that the inclusion of biocellulase in feed has not significantly influenced the growth performance in Nandanam color broilers.

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