

EVALUATION OF THE GROWTH PERFORMANCE OF BROILER CHICKS FED ON PLANT DIETS SUPPLEMENTED WITH SOME FEED ADDITIVES.

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ABSTRACT

A total number of 360, unsexed one-day old Hubbard broiler chicks were randomly distributed into 12 groups with 3 replicates of 10 chicks each and used in a factorial experiment [3 diets x 4 feed additives (probiotics)]. Two control diets (one starter and another grower) were formulated from plant-origin ingredients to meet the major nutrient requirements of broiler chicks. Other two starter and two grower diets were formulated to have 2% less CP but adequate ME (low-CP diets) or less ME by 200 kcal/kg but adequate CP (low-ME diets).

Both starter and grower diets were supplemented with or without 0.1% Bio-Min (as a microbial growth promoter) or 0.03% Ronozyme (as enzymatic growth promoter) or 0.1% Super-Bio-Action (as a microbial and enzymatic growth promoter). Birds received the experimental diets up to 6 weeks of age. The criteria of response were the performance of chicks for weight gain and feed conversion, some carcass and digestive tract measurements, and economic efficiency.

The results revealed the following

- Broiler chicks fed on the low-ME diets achieved heaviest body weight at 6 weeks of age and body weight gain during the period from 3 to 6 and 0 – 6 weeks of age.
- Addition of probiotics into broiler chick diets improved ($P \leq 0.05$) the chicks, body weight gain, during starting period (0-3 weeks of age) and during the whole experimental period (0 to 6 weeks of age).
- Broiler chicks fed on the low ME diet consumed the greatest ($P \leq 0.05$) amount of feed during the growing period (3 to 6 weeks of age) and entire experimental period (0 to 6 weeks of age).
- Birds fed on the low-ME or low-CP diets exhibited a significantly ($P \leq 0.05$) inferior feed conversion during the starting period compared to their control counterparts, but this significant difference was disappeared during the growing and entire experimental period.
- Probiotics supplementation improved ($P \leq 0.05$) the feed conversion during starting, growing and entire experimental periods.
- Neither diet nor probiotics had significant effect on viability of chicks during the entire experimental period.
- Broiler chicks fed on the low-ME diets achieved a lower ($P \leq 0.05$) cost of feed/kg gain compared to those fed on the low-CP diets. However, selling price/bird and economic efficiency were the highest ($P \leq 0.05$) by feeding the low-ME diets. Economic efficiency was also improved by feed supplements used.
- Dietary treatments had insignificant effect on dressing % , while broiler chicks fed on the low-CP diets had the highest ($P \leq 0.05$) abdominal fat % at marketing age.
- Probiotics supplementation improved ($P < 0.01$) carcass weight, while dressing, abdominal fat and giblets percentages were not significantly influenced.
- Broiler chicks fed on the low-ME diets recorded the lowest ($P \leq 0.05$) relative length of small intestine, cecum, large intestine and relative weight.
- Probiotics had negligible effect on some digestive tract measurements.