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Effect of Garlic Powder and Probiotic Supplementation on Growth Performance of Broiler Chickens

R.A.K.P. Dharmasiri[1a], RK Mutucumarana[1]*, S. H. M. P. Senanayake[2]

[1]Department of Livestock Production, Faculty of Agricultural Sciences, Sabaragamuwa University of Sri Lanka, Belihuloya, 70140, Sri Lanka.
[2]JP Poultry Products (Pvt.) Ltd., Walowitawatta, Badalgama, Sri Lanka.
[a]Main author email address: krishanidharmasiri@gmail.com
ORCID ID: https://orcid.org/0009-0003-5977-086X

Abstract

Garlic (*Allium sativum*), known for its bioactive compounds, antimicrobial properties, and widespread availability, serves as an effective natural feed additive in broiler diets. The present study was conducted to investigate the combined effects of either (i) commercially available imported (CIGP) or (ii) locally produced (LGP) garlic powders in combination with probiotics on the performance of broiler finishers. The experimental design was a completely randomized design evaluating five (05) treatments (Control: Basal diet containing 0.1% probiotic; T1: Basal diet containing probiotic at 0.1% and CIGP at 0.025%; T2: Basal diet containing probiotic at 0.1% and LGP at 0.025%; T3: Basal diet containing probiotic at 0.05% and CIGP at 0.025%; T4: Basal diet containing probiotic at 0.05% and LGP at 0.025%). A total of 150, 21-day-old, unsexed Indian River broiler chickens (BW±SD: 1096±46 g) were assigned randomly into five (05) treatments. Each treatment had two (02) replicates (15 birds/replicate). Proximate composition and gross energy (GE) content of both garlic powders and treatment diets were evaluated. Performance was also assessed. The LGP had higher crude protein (CP), crude fiber (CF), nitrogen-free extract (NFE), and GE than CIGP ($P<0.05$). The moisture, CP, ether extract (EE), ash, and NFE across the treatment diets were similar ($P>0.05$). The birds fed T1, T2, T3, and T4 diets showed comparatively a higher feed intake (FI), body weight gain (BWG), and lower feed conversion ratio (FCR) (21-28 d) than those fed the control diet ($P<0.05$). The broilers fed garlic-incorporated diets reduced FCR ($P<0.05$) over the period tested. The local garlic when combined with probiotic at a rate of 0.05% resulted the least production cost. Overall, the present study concluded that inclusion of LGP in combination with probiotic supplementation improves the performance of broiler finishers.

Key Words: *Broiler finisher, Garlic powder, Growth performance, Indian River, Probiotics*