

Production Performance and Feed Cost Implications of Utilizing Seaweed and Indian Jujube Seed Powder in Broiler Chicken Finisher Feed

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In recent years, the safety of broiler chicken meat consumption is in the forefront of growing concerns worldwide. However, the broiler chicken farmers spend more expenses on feedstuffs. Increasing of feed cost has prompted producers to devise strategies to improve feed using locally available materials. The study aims to develop a broiler chicken finisher feed by incorporating locally available seaweed (*Gracilaria* spp.) with Indian Jujubes' seed powder as a supplement for the protein. A thirty-five-day feeding trial was carried out in Trincomalee, Sri Lanka, to determine the performance of broiler chicken fed with the formulated feed. The finisher diet was formulated to contain 14% (w/w) of seaweed and 14% (w/w) of Indian Jujubes' seed powder. One hundred and fifty (150) broiler chicks of 6 days old (167.68 g) were randomly allocated into five groups of thirty (30) in each group, and the five feed treatments (T1 Control)-100% commercial, T2-75% commercial:25% formulated, T3-50% commercial:50% formulated, T4-25% commercial:75% formulated, T5-100% formulated feed) were assigned to the groups in a completely randomized design (CRD). Data were recorded and analyzed on the growth rate, feed consumption rate, and economic value of feed formulation. Daily body weight gain of birds on formulated diet was not significantly differed ($p > 0.05$) from birds on a commercial diet. The highest total body weight gain was observed in T2 at 1370.51 ± 5 g, whereas the lowest was in T5 (1229.44 ± 5 g). The feed conversion ratio was observed in T2 (1.84), similar to T1 (1.87) in commercial feed. The total cost for feed (Rs.170.00/kg) is 50% lesser than the commercial feed. The results suggest that the 25% inclusion level of formulated feed will improve the broiler performance and cost-effective option. In conclusion, compared to commercial diets, alternative feed ingredients in broiler finisher feed have enhanced economic efficiency and have beneficial, long-lasting impacts on growth performance and feed conversion ratio.

Keywords: Broiler Feed, Growth Performance, Indian Jujubes, Seaweed Powder