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Dietary Supplementation of Bamboo Shoot (*Bambusa vulgaris*) Meal: Effects on Growth Performance and Meat Quality of Broiler Chickens (*Gallus gallus domesticus*)

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Abstract

The increasing restrictions on antibiotic growth promoters in poultry production have intensified the search for sustainable, plant-based alternatives. This study evaluated the effects of bamboo shoot (*Bambusa vulgaris*) meal supplementation on the growth performance, carcass characteristics, meat quality, and economic return of broiler chickens (*Gallus gallus domesticus*). A total of 120-day-old chicks were assigned to four treatments under a Completely Randomized Design: T_0 (basal diet), T_1 (3 g/kg bamboo shoot meal), T_2 (6 g/kg), and T_3 (9 g/kg). The feeding trial lasted 35 days. Growth parameters, dressed weight, average daily gain (ADG), feed conversion ratio (FCR), sensory attributes, and return on investment (ROI) were analyzed using ANOVA and Tukey's HSD. Results showed that supplementation significantly improved body weight from day 21 onward ($p < 0.05$), with T_1 consistently exhibiting the highest final weight (6,865.8 g) and ADG (313.64 g/day). Dressed weight was significantly enhanced in T_1 compared with the control ($p < 0.05$). Although FCR improved numerically in supplemented groups, differences were not statistically significant. Sensory evaluation indicated enhanced palatability and texture in supplemented treatments, though without significant variation among groups. Economic analysis revealed that only T_1 generated a positive return (ROI = 4.08%), while higher inclusion levels resulted in reduced profitability. These findings demonstrate that bamboo shoot meal at 3 g/kg can enhance growth performance and carcass yield without adverse effects on meat quality, offering a promising, sustainable feed additive for broiler production. Further studies are recommended to evaluate long-term effects and optimize inclusion levels under commercial conditions.

Key Words: *bamboo shoot meal, broiler performance, phytogenic feed additive, meat quality, sustainable poultry nutrition*