Paddy Husk Adulterated Rice Bran in Broiler Diets: Impact on Growth Performance, Nutrient Digestibility and Gut Health

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This study evaluated the impact of dietary inclusion of paddy husk-adulterated rice bran on growth performance, nutrient digestibility, and the occurrence of intestinal lesions in broiler chicken. Five isoenergetic and isonitrogenous diets were formulated: a corn-soy-based control diet containing unadulterated rice bran and four diets containing rice bran adulterated with paddy husk at 3% (3PH), 5% (5PH), 8% (8PH) and 10% (10PH). One hundred and twenty Cobb 500, one-day old chicks were randomly fed with one of the five experimental diets (n=4 and 6 birds per replicate). The birds were provided with *ad libitum* water and feed for 35 days. Growth performance, relative organ weights and lengths, ileal dry matter digestibility and occurrence of small intestine lesions of the birds were assessed. Body weight gain (1483-1710 g per bird), feed intake (3137-3210 g per bird), and feed conversion ratio (1.86-2.19 g/g), showed no significant differences among dietary groups ($P>0.05$). Apparent ileal dry matter digestibility was also not significantly affected by the diets ($P>0.05$). Carcass yield and breast muscle yield remained unaffected, though gizzard and caecum weights were higher ($P<0.05$) in birds fed 8PH compared to those fed control diet, suggesting enhanced digestive function. Notably, birds fed 3PH reduced duodenal lesion odds (OR = 0.020, $P<0.05$), indicating a protective effect on gut integrity, while higher levels (5PH, 8PH and 10PH) showed no impact on intestinal lesions ($P>0.05$). In conclusion, rice bran adulterated with up to 10% paddy husk can be included in broiler diets without impairing growth performance or nutrient digestibility.

Keywords: Broiler chicken, Paddy husk adulteration, Rice bran, Growth performance, Nutrient digestibility

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