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Efficacy of Red Silk Cotton (*Bombax ceiba*) Flower Powder on Growth Performance, Hematological, Biochemical and Fecal Microbial Load of Broiler.

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Abstract

The study aimed to assess the effects of food supplementation with Red Silk Cotton (RSC) flower powder on broiler chicken production performance, carcass characteristics, haemato-biochemical, faecal microbial load, and cost-effectiveness as an antibiotic replacement. A total of 120-day-old Ross 308 broiler chicks were randomly assigned to four experimental groups. Groups T_0, T_1, T_2, and T_3 received baseline feed supplemented with 1%, 2%, and 3% silk cotton (RSC) flower powder, respectively. In this study, the T_0 and T_1 groups consumed considerably less feed overall ($P<0.05$) than the T_2 and T_3 groups. The 3% RSC-treated group T_3 had a considerably ($P < 0.05$) higher final live weight than the T_1, T_2, and T_0 groups. The T_3 group had a significantly ($P<0.05$) higher feed conversion ratio (FCR) than the T_0, T_1, and T_2 groups. The weight of the broiler chicken's organs (breast, thigh, drumsticks, wings, head, liver, heart and gizzard) and carcass features varied significantly ($P < 0.05$) among all treatment groups. Dietary addition had a significant ($P<0.05$) impact on the lipid profile (total cholesterol, triglyceride, HDL, and LDL), faecal microbial load, drip loss, sensory test, cook loss, feather, skin, and cost-effective parameters. Higher body weight, better FCR, and more feed were observed in the 3% RSC-treated group of birds. Overall, 3% RSC addition was a more effective antibiotic substitute than 1% and 2% RSC.

Keywords: *Broiler, Red silk cotton (RSC), production performance, haemato-biochemical*