Carcass, meat and bone quality of broiler chickens fed with postbiotic and prebiotic combinations

ABSTRACT

The study assessed the effects of different types of postbiotics that mixed with different levels of prebiotic (inulin) on carcass, meat and bone quality. A total of 280 male Cobb broiler chickens were randomly assigned to 8 treatment groups. The treatments included basal diet (-ve control), basal diet+neomycin and oxytetracycline (+ve control), (T1) basal diet+0.3% postbiotic RI11 (T2) basal diet+0.3% postbiotic RG14 (T3) basal diet+0.3% postbiotic RI11+0.8% inulin, (T4) basal diet+0.3% postbiotic RI11+1.0% inulin, (T5) basal diet+0.3% postbiotic RG14+0.8% inulin, and (T6) basal diet+0.3% postbiotic RG14+1.0% inulin. The birds were fed the diets for 6 weeks and slaughtered. Meat quality assessment was conducted on the breast muscle while bone quality traits were assessed on tibia of right leg. Birds fed postbiotics and inulin had lower ($p< 0.05$) drip loss and improved ($p< 0.05$) lightness of breast muscle as compared to the control birds. No changes were observed in cooking loss, shear force and most carcass attributes among the treatments. Carcass attributes, bone breaking strength, tibiotarsal index and robusticity index were not significantly different ($p>0.05$) among the treatments. Postbiotic and inulin had beneficial effect on meat quality as compared to antibiotics.

Keyword: Bone quality; Carcass; Inulin; Meat quality; Postbiotics; Probiotics