

Physico-chemical properties of breast muscle in broiler chickens fed probiotics, antibiotics or antibiotic–probiotic mix

ABSTRACT

This study investigated the efficacy of antibiotics, probiotics and their combination on meat quality of breast muscle in broilers. A total of 480 male one-day-old Cobb chicks were randomly assigned to control (without additive), antibiotic growth promoter (AGP), Bioplus® (probiotics), or AGP + Bioplus® and raised for 42 d. Each treatment was replicated six times with 20 birds per replicate. At the end of rearing period, 10 birds were randomly selected from each treatment, slaughtered and the breast muscles were excised for meat quality analyses. The results showed that all additives influenced drip and cooking losses, pH, fat content and colour attributes of breast muscle but did not affect tenderness, muscle glycogen, moisture, crude protein and ash content of breast muscle. Both drip and cooking losses were lower in treatment groups than those in the control group. Birds fed sole probiotics had the least pH, drip loss and cooking loss compared with the other treatments. Sole probiotics-fed birds had higher lightness, redness and yellowness values and lower fat value than the other treatments on day 1 post-mortem. The results indicate that probiotics are good substitutes for antibiotics in the diet of broiler chickens for the enhancement of meat quality.

Keyword: Antibiotic; Antibiotic–probiotic mix; Broiler; Meat quality; Probiotic