Performance and carcass traits of broilers supplemented with probiotic or neomycin antibiotic.


Abstract:

An experiment was designed to evaluate the effect of a probiotic as alternative to antibiotic growth promoters for broiler chicks. One hundred and fifty unsexed one-day-old Ross broiler chicks were randomly assigned to five equal groups; the first was considered the control group, while the second to fifth were the treatments groups. Each group included three equal replicates each of 20 chicks. The ration used in the first group was the experimental ration without any supplements (control) while, those of 2-5 treatment groups were the same ration, but supplemented with antibiotic Neomycin (200 mg/kg diet), probiotic (1g/kg diet), probiotic (1.5g/kg diet), and probiotic (2g/kg diet), respectively. All birds were raised in wire floored batteries with following dimensions width: 97 cm; length: 50 cm; height: 45 cm under similar environmental and management conditions. Body weight (BW), body weight gain (BWG), feed intake (FI), feed conversion ratio (FCR); carcass and some organ weights percentages as well as intestines and ceca lengths were determined at the end of the experiment (42 days of age). The obtained results revealed that birds fed ration supplemented with antibiotic (G2), achieved significantly heavier final BW and higher BWG than birds received different levels of probiotic (G3 to G5) or the control diet (G1). However, birds received 1g or 1.5g probiotic/kg diets (G3 or G4) had significantly higher final BW and BWG than those fed the probiotic diet (G5) and the control diet (G1). Birds fed antibiotic diet (G2) or received 1g and 1.5 g probiotic/kg diets (G3 and G4) had significantly better FCR values than those of birds fed the control diet (G1) and 2g probiotic/kg diet (G5). The total mortality rate of birds in G3 was lower than those of the other groups. Supplementing the diets with antibiotic or probiotics did not affect the percentages of carcass and body organ weights (gizzard, liver, heart, spleen and Giblets) as well as the lengths of intestines and ceca. The abdominal fat percentage in G1 and G4 was decreased compared to the other groups. Therefore, the supplementation of 1.5 g probiotic/kg diet as an alternative to antibiotics in broiler diet is highly recommended to obtain higher growth performance, improved feed conversion, and lower mortality, without adverse effect on abdominal fat and carcass traits.

Keywords:

Probiotic, antibiotic, broilers, performance, carcass

Published In:

Egyptian Journal of Animal Production, 51 (2), 107-114