

عنوان مقاله:

Breast Muscle Characteristics of Avian Pathogenic Escherichia Coli Infected Broilers Fed with Antibiotics or Probiotic

محل انتشار:

مجله علوم طیور، دوره 7، شماره 2 (سال: 1398)

تعداد صفحات اصل مقاله: 10

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خلاصه مقاله:

The study was conducted to evaluate the impact of feeding multistrain probiotic on breast muscle characteristics of avian pathogenic Escherichia coli (APEC) infected broilers. Three hundred and thirty six Lohmann MB-202 day-old-chicks were divided to four treatment groups, including CNTRL (chicks receiving basal diet and not infected), APEC (chicks receiving basal diet and infected with APEC), APEC-AGP (chicks taking in basal diet containing 0.04% zinc bacitracin and infected with APEC) and APEC-PROB (chicks taking in basal diet containing 0.5% probiotic Bacillus and infected with APEC). At day 35, birds were randomly taken and slaughtered, and from which the breast muscles were collected for the determination of breast meat characteristics. The breast meat of CNTRL had lower ($P < 0.05$) pH values than APEC-AGP and APEC-PROB birds. The breast muscles from CNTRL exhibited higher ($P < 0.05$) water holding capacity (WHC) and water content than that from infected groups. Crude fat was higher ($P < 0.05$) in APEC-AGP and APEC-PROB than that of CNTRL and APEC meats. Crude ash was higher ($P < 0.05$) in APEC-PROB meat than that in other meats. The L^* (lightness) values were higher ($P < 0.05$) in meats from APEC and APEC-AGP than in CNTRL and APEC-PROB meats. The a^* (redness) values were higher ($P < 0.05$) in meat of CNTRL than in APEC-AGP and APEC-PROB. The samples from APEC-AGP had the highest ($P < 0.05$) values of b^* (yellowness). Palmitic, stearic and linoleic acids were higher ($P < 0.05$) in meat from CNTRL and APEC compared to that from APEC-AGP and APEC-PROB. Oleic acid was higher ($P < 0.05$) in CNTRL than in APEC-AGP and APEC-PROB meats. CNTRL meat had higher ($P < 0.05$) antioxidant activity than APEC and APEC-AGP meats. The 21, 42.7, 40, 51 and 53 kDa bands were intense in all meat samples from APEC group, but less intense in some samples from CNTRL, APEC-AGP and APEC-PROB groups. In conclusion, APEC infection posed a negative effect on broiler meat characteristics. Probiotic seemed to counteract infection and thereby alleviate the detrimental effect of APEC infection on meat traits.

کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا:

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