**Effects of** **phosphatidylcholine on the performance, meat quality, lipid metabolism and gut micro-flora of broilers**

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**ABSTRACT** Phosphatidylcholine (PC) is widely used in human and animal foods because of its cholesterol-lowering properties, but the effects of PC as a feed additive for broilers is still unclear. The present study was conducted to evaluate the effects of PC on the performance, meat quality, lipid metabolism and gut flora of broilers. Two-hundred and fifty-six 1-day-old AA broilers were randomly assigned to 2 groups with 8 replicates of 16 birds each and were supplemented with 0 and 100 mg/kg of PC for 42 days. Performance and clinical observations were measured and recorded throughout the study. Organ index, meat quality, lipid-related biochemical parameters and enzyme activities as well as gut flora were also measured. The results showed that meat quality (meat color, water-holding capacity and tenderness), hepatic lipase in serum and abdominal adipose were significantly affected by PC concentration at 21 and 42 days (*P* < 0.05). Lower *Firmicutes* and higher *Bacteroidetes* levels in phylum level were observed in the PC treatment group after 21 and 42 days.The distribution of *Lactobacillus, clostridia* and *rikenella* in genus level were higher in the PC treatment group after 21 and 42 days. No statistically significant changes were observed in performance, organ index or other serum parameters.These findings suggest that supplementation with PC significantly reduced the meat tenderness and abdominal adipose of broilers while showing no significant effect on performance or organ development throughout the experiment.

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