

News & Comments

A Novel Perception of Antibiotic Alternatives in The Poultry Industry

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Antibiotics have been added to feed for many years to help broiler chickens grow bigger. Antibiotic feed additive restrictions or outright bans have been gradually put into place in numerous nations. It has been shown that adding live *Lactobacillus* to an animal's food can enhance its ability to grow. Numerous research has suggested that *Lactobacillus* may improve broiler growth performance, nutritional absorption, antioxidative capacity, anti-inflammatory, and intestinal health. Due to the types of bacterial species/strains, supplementing techniques, processing technologies, and environmental systems, a few research discovered that the growth-promoting effect was not substantial. The majority of gram-negative bacteria use Acyl Homoserine Lactones (AHLs) as significant signal molecules in their quorum sensing systems. The article was published in Science Direct where the authors were, X. X. Sun, D. D. Chen, S. Q. Deng, and others. This study's objective, according to the authors, was to assess the effects of *Lactobacillus* and QQE in combination on broiler growth performance, antioxidant capacity, immunological parameters, and gut microbial communities. "We presented our research on the benefits of probiotics and enzymes when combined on broilers and investigated more environmentally friendly antibiotic alternatives", said the authors.

We also discovered that the LQ group had higher serum levels of IgG. Furthermore, Pearson correlation analysis revealed a positive association between the level of immunoglobulin in serum and the relative abundance of Faecal bacterium and *Lactobacillus*, which were highest in the LQ group among the three groups. The results of the current investigation showed that broilers' alpha diversity of cecal microbiota was unaffected by the supplementation of AGP and LQ. According to scientists, proteobacteria are associated with both extraintestinal and intestinal illnesses in humans. Probiotic *L. acidophilus* was added to bird feed to help lower the number of proteobacteria in the ileum. The relative abundance of Faecal bacterium was favourably connected with the broilers' BW and ADG, according to the study's Pearson correlation analysis. The authors concluded the addition of LQ to diets could decrease the relative abundance of Proteobacteria, increase the relative abundance of Ruminococcaceae and Faecalibacterium, tend to increase butyric acid content, and finally improve BW and ADG in broilers, suggesting that LQ may be used as a potential antibiotic substitute in poultry.

KEYWORDS

Broiler, *Lactobacillus*, quorum quenching enzyme, growth performance, microbiota

