The Effects of Prebiotic, Probiotic and Synbiotic Supplementation on Intestinal Microbial Ecology and Histomorphology of Broiler Chickens

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Abstract:

A study was undertaken to evaluate the effect of prebiotic, probiotic and synbiotic supplementation on intestinal microflora and histomorphology of broilers. One-day-old Avian 48 chicks (n=100) were randomly assigned to 4 treatments (25 birds/treatment) for 6 week experiment. Each treatment consisted of 3 replicates (two replicate of 8 birds and one with 9 birds). Treatment groups were as follow: 1. Basal diet (control); 2. Basal diet plus Mannan- Oligosaccharide (MOS) at levels of 2 g /kg of the starter diets and 0.5 g/kg of the grower diets); 3. Basal diet plus probiotic (3 g/kg diet, Saccharomyces cerevisiae); and 4. Basal diet plus the combination of pre and probiotics (synbiotic). On d 21 and 42, 3 birds per treatment were sacrificed to evaluate gut morphology and microbiology. Duodenum, jejunum, ileum, and cecum microflora composition and intestinal histomorphology were determined. The final body weight (BW), weight gain, feed conversion efficiency were significantly (p 0.05) any of the intestinal histomorphological parameters.

Keywords:

Prebiotic, probiotic and synbiotic, broilers, histomorphology, microbi

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