

Impact of ginger (*Zingiber officinale*) on intestinal, caeca microbial loads and growth performance of broilers

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Abstract

A study using ninety-nine day old Marshal Broiler chicks was conducted to investigate the effect of ginger root meal on growth, carcass and microbial population of broiler birds. The birds were randomly assigned to three treatments replicated three times in a Completely Randomized Design (CRD). Each treatment consisted of 33 birds with 11 birds per replicate. The birds were fed ginger root meals supplemented at 0%, 1.5% and 3.0% representing diets 1, 2 and 3 respectively, with diet 1 as the control. Data collected on feed intake, final body weight, weight gain, feed conversion ratio, different carcass parts and microbial load of intestines, caeca and mortality were subjected to analysis of variance (ANOVA). Results showed significant decrease ($P<0.05$) in abdominal fat for birds fed 1.5% and 3.0% ginger supplemented diets, while the other carcass parts were not influenced. There were also significant decreases ($P<0.05$) in weight gain, final live weight and caeca microbial loads for birds fed 1.5% and 3.0% ginger supplemented diets compared to the control. Significant increases ($P<0.05$) were observed in feed conversion ratios and feed intake with resultant decrease in weight gain on diets 2 and 3, while mortality increased significantly in diet 3. Furthermore, the results also showed that ginger did not have any detrimental effect on the intestinal micro flora, but supported the activities of micro-organisms that aid digestion in the gastro-intestinal tract. The intestinal and caeca microbial loads examination confirmed the antimicrobial properties of ginger.

Keywords: Antibiotics, Broilers, Ginger, Growth performance, Microbial load, Probiotics

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