

Comparative Effects of Dietary *Ocimum Gratissimum* and Antibiotic Growth Promoter on Body Weight and Gut Morphometry of Broiler Starters

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Abstract : Antibiotics used as growth promoters in animal feeds have been criticized and banned in many nations due to possible development of both drug resistance, cross resistance and multiple resistances by consumers. Numerous additives are now being used or proposed as alternatives. A study to compare the effects of *Ocimum gratissimum* (Scent leaf) and antibiotic growth promoter (Oxytetracycline HCl) on growth performance and intestinal morphology of starter broiler birds was conducted using ninety six (96) days old broiler birds. The birds were randomly assigned to four treatments with each treatment comprising 24 birds replicated three times with 8 birds per replicate in a completely randomized design experiment. Four diets (T1 control diet without Oxytetracycline HCl and *Ocimum gratissimum*; T2 had Oxytetracycline HCl; T3 had 1% *Ocimum gratissimum*; T4 had 1.5% *Ocimum gratissimum*) were formulated and offered ad libitum to the respective birds. Data was collected on feed intake, body weight gain and feed conversion ratio (FCR) also Jejenal sections of the intestine were collected for examination of Villi length and Crypt depth at the end of starter phase. Results show that there were no significant difference ($P>0.05$) observed in feed intake and final body weight. However, feed conversion ratio (FCR) and daily weight gain significantly differed ($P<0.05$). T1, T2, and T4 were similar, however T2 differed ($P<0.05$) from T3. FCR followed the same pattern. Dietary treatment significantly ($P<0.05$) affected Villi length, Crypt depth and Villi length/crypt depth ratio. Birds fed OG containing diets, had significantly higher ($P<0.05$) villi length/crypt depth ratio. However, this did not translate to a significantly higher body weight gain or feed conversion ratio. It can be concluded that *O. gratissimum* can replace antibiotic growth promoter (Oxytetracycline HCl) since their effect on performance were similar.

Keywords : antibiotics, body weight, feed additives, intestinal morphology, phytochemicals

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