

Effect of supplementing *Morinda lucida* (Brimstone) leaf meal in the diets on the Performance, Intestinal and Tissue Microbial count of broiler chickens

1Lala, A. O., 1Okwelum, N., 2Adeseye, A. R., 2Olubi, B. A. pp 117 -126

Abstract

This study was conducted to evaluate the effects of dietary supplementation of *Morinda lucida* leaf meal on growth performance, tissue and gastro-intestinal tract microbial count of broiler chickens. A total of 198 one-day old Marshal Broiler chicks were randomly assigned into six treatments in a 3x2 factorial design of four replicates each. The six dietary treatments consist of the basal diet supplemented at 0, 0.1 and 0.2 g/kg *Morinda lucida* with or without routine medication. Body weight and feed intake were weighed per replicate on weekly basis for eight weeks while the microbiology assay of the tissue and intestine samples was determined by total viable bacterial and total coliform counts at the end of the fourth and eighth week. Addition of *M. lucida* to the diets significantly ($P<0.05$) improved weight gain and survivability at the starter phase with or without routine medication. Broiler chickens fed *M. lucida* in the diet with medication recorded higher feed intake than those without medication. *M. lucida* inhibited the growth of detected bacteria either at the starter or finisher phase with the exception of *Staphylococcus saprophyticus* and *Escherichia coli*. The total viable bacteria count was significantly ($P<0.05$) reduced in the intestine and tissue of chickens fed *M. lucida* supplemented diets than chickens fed control diet. Total coliform count in the intestine and tissue of the chickens did not show any significant ($P>0.05$) difference among all the treatment groups. The study reveals that *Morinda lucida* was able to reduce *Pseudomonas aeruginosa* *Streptococcus* spp, *Micrococcus* spp and *Enterobacter* spp. activities in the gastrointestinal tract resulting in improved performance.

Keywords: broiler chicken, *Morinda lucida*, microbiological assay

Institute of Food Security, Environmental Resources and Agricultural Research, Federal University of Agriculture Abeokuta, Ogun State, Nigeria.

Department of Animal Nutrition, Federal University of Agriculture Abeokuta, Ogun State, Nigeria.

Corresponding author's email: funmilala02@yahoo.com

Target audience: rural and organic poultry farmers