

ABSTRACT:

Effects of Aqueous Plant Extracts on Growth Performance and Haematology of Pure and Crossbred Chickens

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In the pursuit of solving food insecurity especially with respect to animal protein intake in developing countries, this study investigates novel approaches that promise to bridge the protein gap of the ever-rising population. Nnenna W. Anizoba, Nnanna N. Ikeh, and Ndubuisi S. Machebe, affiliated with the Department of Animal Science at University of Nigeria, Nsukka, join forces with Bright C. Amaefule, Chekwube M. Ugwu and Celestine Ezenwosu from the same institute.

This study aimed to evaluate the effects of aqueous plant extracts on growth performance and haematology of pure and crossbred chickens. A total of 360 one-day-old chicks from 3 genetic groups consisting; 120 noiler chicks, 120 heavy ecotype chicks and 120 main cross chicks were randomly distributed after weighing in 4 groups each (3 replicates in each, n=10 chickens). A 3×4 factorial arrangement of 4 dietary treatments were constituted as follows: T1 - Birds on 0 ml of extract; T2 - Birds on 200 ml of neem extract; T3 - Birds on 200 ml of ginger extract and T4 - Birds on 200 ml of neem + ginger extract. Growth parameters such as Hatching weight (HW), Final weight (FW), average daily gain (ADG), average feed intake (AFI) and feed conversion ratio (FCR) showed significant ($P<0.05$) effect among genotype. Birds on T3 and T4 had the best growth performance with improved feed conversion ratio. Final weight (FW) and average daily gain (ADG) showed significant ($P<0.05$) effect among the genotype and treatment effect. The results of the haematological indices revealed that the effect of genotype and treatment on haematological indices was significantly ($P<0.05$) different for haemoglobin (Hb), packed cell volume (PCV), white blood cell (WBC) and platelet (P). Some of the haematological indices were better ($P<0.05$) for birds on T₃ and T₄. Based on obtained result, it was concluded that variation in the growth performance and haematological parameters between 3 chicken genotypes in Nigeria is due to differences in their genetic makeup in combination with plant extracts and that T3 (200 mg of ginger) and T4 (100 mg neem + 100 mg ginger) were appropriate without exhibiting deleterious effects on the physiological characteristics of birds.