

## **Abstract**

This research was carried out to assess the performance response of broiler chicks fed enzyme supplemented roselle seed (*Hibiscus Sabdariffa*). The experiment was conducted at the poultry farm of the College of Animal Production Science and Technology, Sudan University of science and technology during the period between October and Nov 2011 when the average temperature ranged between 27c<sup>0</sup> and 38c<sup>0</sup>. The experiment was conducted at the poultry farm of the College of Animal Production Science and Technology, Sudan University of science and technology during the period between October and Nov 2011 when the average temperature ranged between 27c<sup>0</sup> and 38c<sup>0</sup>. Two thousand day- old commercial bird chicks (Habbard) were purchased from Arab poultry breeders Co. (Ommat). They were received and unpacked in a deep litter house, during which period they received a dose of multivitamin in drinking water to help reduce transportation stress. Birds were visually inspected for health vigor and the under – weight chicks were excluded. One hundred and sixty day- old (Habbard) broiler chicks were randomly selected, weighed and assigned into four treatment groups/40 birds in each treatment. Each treatment consisted of four replicates of 10 birds/replicates. Birds were allowed to consume feed and water adlibitum during the 42 day trial

period, the chicks were vaccinated against Infectious Bursal Disease (IBD) (Gambaro) at 14 and 35 days and Newcastle Disease (ND) at 6 and 21 days old.

Sixty three kilograms of roselle seed were purchased from El nahood, a town in north Kordufan, while the other ingredients (sorghum, Groundnut cake, sesame cake oyster shell, salt, super concentrated lysine, Methionine and enzyme) were purchased from the local market. Four Isocaloric - Isonitrogenous experimental diets were formulated to meet the requirements recommended by National Research council (NRC) (1984). Diet one for broilers which contained Roselle seed served as control, the control diet contained 61.4% Sorghum, 16% Groundnut cake and 16% Sesame cake as a main source of energy and protein, in the other three diets graded levels of roselle seed (7.5, 15, 22.5) were added as replacement for groundnut cake and sesame cake.. L- Lysine was added to meet the recommendations of NRC (1984).

Enzyme supplementation in dietary graded levels of roselle seed in broiler rations decreases (Table: 7) feed intake and weight gain. Enzyme supplemented Roselle seed had no detectable effect on mortality.

