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“Reconcile land system changes
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Blood and hormonal profile of Noiler hens on aqueous extracts of african sausage fruit (*Kigelia africana*)

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Abstract

The exploration and subsequent introduction of extracts of plants with phyto-genic po-tency in poultry nutrition has gone a long way in boosting growth and replacing the usage of synthetic antibiotics in poultry farming. *Kigelia africana* (African Sausage Fruit), tra-ditionally known for its medicinal properties, is a plant with proven phyto-genic potency but has not been widely explored as a nutritional supplement in poultry farming. This study aimed to evaluate the effects of raw and heat-treated (boiled) aqueous extracts of *Kigelia africana* on blood and hormonal profiles of Noiler hens, to improve poultry he-alth and productivity. 450 hens were randomly divided into three groups: a control group, a raw extract group, and a boiled extract group. The hens were fed for 9 weeks, after which blood samples were collected to assess hematological indices (hemoglobin, packed cell volume, white blood cells, neutrophil, and lymphocyte counts), serum biochemical markers (alkaline phosphatase, blood globulin, aspartate aminotransferase, alanine amino-transferase, glucose, albumin, total protein, and uric acid), and key reproductive hormones (luteinizing hormone, progesterone, follicle-stimulating hormone, and estrogen). Results showed that the boiled extract group had higher hemoglobin levels and packed cell vo-lume than the control group, suggesting improved oxygen transport. White blood cell, lymphocyte, and neutrophil counts were similar across all groups, indicating no significant impact on immune response. Serum biochemistry revealed no significant differences in liver function markers, and all other biochemical parameters were within normal ranges. Signi-ficantly higher luteinizing hormone and progesterone levels were observed in the *Kigelia africana*-treated group, suggesting that heat treatment enhanced its effect on reproductive hormones. It was concluded that *Kigelia africana*, especially in its boiled form, improved the haematological and hormonal indices of Noiler hens without negatively impacting the serum biochemistry and liver enzymes

Keywords: African Sausage Fruit, blood parameters, heat-treated extract, Noiler hens, raw extract