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Haematology and Serum Biochemistry of West African Dwarf Goats Fed Diets Containing Treated Rice Husk (RH) as a Replacement for Wheat Bran.

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Abstract

The study was conducted to evaluate the effects of treated rice husk as a replacement for wheat bran on the haematology and serum biochemical parameters of West African Dwarf (WAD) goats. Twenty WAD goats were subjected to five dietary treatments in a completely randomized design with four goats per treatment. The treatments were 0% RH (T1), 25% RH (T2), 50% RH (T3), 75% RH (T4) and 100% RH (T5). The animals were fed at 5% of their body weight. Blood samples of 10 ml were collected at the end of the growth trial to analyze for haematology and biochemical components. Blood samples were taken before morning feeding via jugular vein puncture into two blood collection bottles. One containing an anticoagulant Disodium salt of ethylene diamine tetraacetic acid (EDTA) and the other with no anticoagulant from which serum was harvested for biochemical analysis. Packed Cell Volume (PCV), Haemoglobin (Hb), red blood cell (RBC) and total white Blood Cells (WBC) were determined. Mean Corpuscular volume (MCV), Mean Corpuscular haemoglobin (MCH) and Mean Corpuscular haemoglobin concentration (MCHC) was calculated from PCV, Hb and RBC. Serum biochemical parameters measured include glucose, total protein, albumin, blood urea nitrogen (BUN), aspartate aminotransferase (AST) and alanine aminotransferase (ALT) parameters were determined. Goat fed with diet T4 had better red blood cell, Pcv, hemoglobin, platelet, eosinophil and AST but high in cholesterol level. Goat on T2 had the highest Tp and better hemoglobin, Pcv, platelet lymphocytes, ALT and globulin content. The treated rice husk had positive impact on the blood parameters, the values are within the normal range for healthy goat. Hence, from this study, 25 – 50% treated rice husk replacement for wheat bran suggests suitable for better performance of WAD goats.

