Acute and Sub-Chronic Toxicity Studies of African Palmyrah Palm (*Borassus Aethiopum*) Shoots Obtained from Sokoto State, Nigeria

Muhammad Sirajo.¹ --- Kabiru Jega Umar.² --- Sanusi Hassan Warra³

¹Department of Chemistry, Sokoto State University, Sokoto State, Nigeria.
²Department of Pure and Applied Chemistry, Usmanu Danfodiyo University, Sokoto State, Nigeria.
³Department of Biochemistry, Usmanu Danfodiyo University, Sokoto State, Nigeria.

Abstract

The study examined the effect of feeding albino rats with 25%, 50%, and 75% Palmyrah Palm (*Borassus aethiopum*) shoots with respect to their body weight, liver and kidney function indices. No mortality was observed in the LD₅₀ test throughout the period of 48 hours. Rats fed with 25%, and 50% *Borassus aethiopum* shoots showed a gradual increase in the body weight throughout the period of treatment, but those fed with 75% of the shoots experienced a significant (p>0.05) decrease in body weight at the 3rd and 4th week of treatment compared to the control group. The results also showed changes in the Serum total protein, albumin, globulin, glucose and bilirubin but were not significantly different (p>0.05) compared to the control group. The serum enzymes activities i.e aspartate aminotransferase (AST), alanine aminotransferase (ALT), and alkaline phosphatase (ALP) were significantly (p>0.05) elevated compared to the control group which suggested toxicity induced by some of the phytocompounds present in the feed. Serum creatinine, urea, uric acid, and electrolytes (Na⁺, K⁺) of rats fed with 75% *Borassus aethiopum* shoots showed significant (p>0.05) changes compared to the control group. The results showed that *Borassus aethiopum* shoots have a relatively low or no toxicity.

Keywords: Borassus aethiopum, Albino rats, Liver function, Kidney function.