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Short-term growth performance and toxicological evaluation of *Neocarya macrophylla* seed oil based diets in albino rats

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The nutritional and toxicological evaluation of *Neocarya macrophylla* Seed Oil (NMSO) was carried out in order to determine the suitability of the oil for nutritional purposes using Wistar rats. A total of 28 Wistar albino rats were divided into four groups of seven rats each. Group A was fed with an industrially purchased feed and group B with a control diet compounded with 10% (w/v) groundnut oil containing 22.84±0.12% of protein, 4.80±0.01% of fat, 44.8±0.14% of carbohydrate and energy value of 1328.11±0.69. Groups C and D were fed with diet compounded with 5% (w/v) and 10% (w/v) NMSO respectively. After six weeks, the rats were sacrificed and their blood samples and organs were collected for analysis. The growth parameters of the rats in the four groups appeared considerably good at the end of the experiment. Rats in group C had the highest weight gain. No significant difference was observed between the average values obtained for LDL in the total lipid profile analysis for the four groups. The blood biochemistry result showed no significant difference in the average values of total protein (7.90±0.66-8.07±0.32), albumin (2.63±0.85-3.10±0.72), globulin (4.80±0.10-5.18±0.89), AST (40.00±1.73-41.67±13.22), ALT (28.00±2.65-30.00±3.00) and creatinine (0.73±0.23-0.77±0.21). No significant difference was also observed in the haematological parameters of the rats across the treatments. No major lesion was found in the kidney and heart of both the control and experimental rats. NMSO at 10% (w/v) appeared to be non-toxic and might cheaply replace conventional vegetable oils such as groundnut oil.

Biography

Ibironke A Ajayi obtained her PhD in Industrial Chemistry from University of Ibadan, Ibadan, Nigeria in 2002. She is presently a Senior Lecturer in the same university. She has published more than 60 papers in reputed journals and has been serving as reviewer of reputed journals.

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