

ID: 706

Chemical and nutritional assessments of *Balanite aegyptiaca* seed cake used as additives in diets for *Clarias gariepinus* post juveniles (catfish).^{1,3}Ifedi, E. N., ¹Ajayi, I. A., ²Olaifa, F. E. and ³Akintade, O. O.¹Industrial unit, Department of Chemistry, University of Ibadan, Ibadan, Nigeria²Department of Wildlife and Fisheries Management, University of Ibadan, Ibadan, Nigeria³Department of Chemical Sciences, KolaDaisi University, Ibadan, Nigeria**Abstract**

The chemical analysis and nutritional assessment of *Balanite aegyptiaca* seed cake (BASC) were investigated to evaluate the effect of using BASC as additive at 0 %, 10 %, 20 % and 30 % inclusion levels in catfish diets and performance. Two hundred and twenty-five *Clarias gariepinus* post juveniles (catfish) with initial weight ranging from 28.06±0.35g to 31.92±0.97g were divided into five experimental groups. Each group with three replicate of fifteen fishes stocked in 40-litre plastic bowls were fed twice a day at 3 % of their body weight with five formulated diets for 56 days. Diets 1 and 2 (standard feed and 0 % BASC) were used as control while diets 3, 4 and 5 containing respectively 10 %, 20 % and 30 % of BASC were the experimental diets. The protein content in the prepared feed increased gradually within the groups due to the high protein content (51.31±0.13%) of BASC. All the fish increased significantly ($P \leq 0.05$) in weight, length, nitrogen metabolism, condition factor, survival rate and in other growth parameters above the initial values with the highest percentage in 30% group. Haematological analysis showed a slight increments in the blood parameters (PCV, Hb, RBC WBC and MCHC) except for MCH, MCV and platelets ($p < 0.05$). No significant differences were observed in ATP, AST, ALT, globulins and albumin in fish fed on BASC containing diets. Histology showed a mild congestion of the blood vessels in the Kidney of the control and 10 %, a moderate portal congestion and diffuse vacuolar degeneration in the liver of the control and 20%. No significant differences were observed in all gills, heart as well as in the kidney and liver of other experimental fishes. *B. aegyptiaca* seed cake could be a nutritional source without any toxic effect to *Clarias gariepinus* post juveniles (catfish).

Key Words: *B. aegyptiaca* cake, *C. gariepinus* post juveniles, growth performance, nutritional source

