

The Effects of Feeding the African Catfish, *Clarias Gariepinus* with Fermented Sweet Potato (*Ipomoea Batatas Lam*) Peels on Growth: Nutrient Utilization and Some Haematological Indices

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Abstract : This study examined the growth, nutrient utilization and haematological responses of the African catfish, *Clarias gariepinus*, juveniles (mean weight $27.69 \pm 0.51\text{g}$) fed diets with varying levels of fermented sweet potato (*Ipomoea batatas Lam*) peels (SPP) diet, for a period of 10 weeks, in the laboratory. Five iso-caloric and iso-nitrogenous diets were formulated containing 0% (control diet), 25%, 50%, 75% and 100% SPP-maize replacements tagged diets D0, D25, D50, D75 and D100 respectively. The growth response of the fish fed the four experimental diets compared favourably with the control diet, as significantly ($P>0.05$) higher values were observed for MFW, MWG, SGR, FCR, PER and ANPU. However, fish fed D50 and D75 containing 50% and 75% inclusion of SPP meal demonstrated superior growth performance over the other diets (D25 and D100). The carcass of fish-fed experimental diets also indicates significantly higher ($p<0.05$) protein and lipid content for dietary inclusions of SPP, compared to the initial and fish-fed control diet. There was an increase in the white blood cells (WBC) and the lymphocytes as the SPP increased in the diet. The results obtained for mean corpuscular haemoglobin concentration (MCHC), mean corpuscular hemoglobin (MCH) and mean cell volume (MCV) showed that the fish fed the diet containing 75% SPP had significantly higher ($p<0.05$) values of MCH (48.00 pg) and MCV (155.00 fl) than the other diets. These results show that *Clarias gariepinus* could tolerate up to 75% level of the inclusion of fermented sweet potato peel in the diet without any deleterious effects. Fermented sweet potato peels can conveniently replace conventional energy sources. This discovery could become a means of recycling massive potato peel wastes being generated daily, thus mitigating the greenhouse gas emission problem.

Keywords : hematology, fermentation, carcass, growth, African catfish

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