

Partial replacement of fish meal by cassava leaf meal in the diet of *Xiphophorus maculatus* juveniles to improve their growth parameters

M.W.H.H. Jothirathna¹, M.S.M. Nafees^{1*} and K. Radampola²

¹Faculty of Agriculture, Eastern University, Vantharumoolai, Sri Lanka

²Faculty of Fisheries and Marine Sciences and Technology, University of Ruhuna, Matara, Sri Lanka

Feed industries need to identify cost-effective protein sources to replace fish meal in the feed due to limited supply and high price. Cassava Leaf Meal (CLM) was evaluated for its ability to partially replace fish meal in the diet of *Xiphophorus maculatus* (platy) juveniles. Four experimental diets were prepared at 33.5±2.1% crude protein level by replacing 0%, 5%, 10%, and 15% of fish meal by CLM, where the 0% served as control. Ninety six individuals of 21-days old mixed-sex platy juveniles (0.185±0.012 g per fish) were randomly allocated to 12 glass tanks (60×30×30 cm³ each) at a stocking density of 8 fish per tank. Each treatment had three replicates. The diets were fed to the juveniles daily up to satiation for six weeks. Feed consumption, Livebody Weight (LW), Live Weight Gain (LWG), Specific Growth Rate (SGR), Feed Conversion Ratio (FCR), and survival were measured on fish samples and analyzed in SAS software package. The results showed that mean daily feed consumption of *X. maculatus* was significantly high (P<0.05) at 0% (5.19±0.89% of LW) and 5% (5.25±1.08% of LW) inclusion level of CLM. Final LW was significantly high (P<0.05) at 5% inclusion level of CLM (0.31±0.03g). Average LWG and SGR were significantly high (P<0.05) at 0% (59.40±27.63% and 2.91±0.24%) and 5%(68.8% and 2.87±0.13%) inclusion levels of CLM. In conclusion, current study shows that CLM can replace the 5% of fish meal in the diet of *X. maculatus* juveniles without compromising their normal growth.

Keywords: *Xiphophorus maculatus*, cassava leaf meal, specific growth rate

* Corresponding author - email: mohamednafiez@yahoo.com