

Growth and Nutrient Utilization of Some Citrus Peels and Vitamin Premix as Additives in *Clarias Gariepinus* Diets

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Abstract : The study was carried out at the Federal University of Technology, Akure, Nigeria, West Africa. Seven set of diets were prepared comprising of two sets. The first set consisted of a combination of three diets from a combination of two different citrus peels from Orange (*Citrus sinensis*), Tangerine (*Citrus tangerina* / *Citrus reticulata*) and Tangelo (*Citrus tangelo* a hybrid of *Citrus reticulata* and *Citrus maxima*) at 50:50 while the other three consisted f50:50. Diet with 100% vitamin premix served as the control. Air-dried citrus peels were added in a 40% crude protein diet for the juveniles (4.49 ± 0.05 g) *Clarias gariepinus*. The experiment was carried out for a period of 56 days in triplicate trials. Fish were randomly distributed into twenty-one tanks at ten fish per tanks. The feed was extruded and fed to satiation twice daily. The result shows that fish fed Tangelo and Tangerine (TGL-TGR) had the best growth response in terms of final weight, specific growth rate, feed conversion ratio and feed utilization efficiency when compared with other diets. The FCR of fish in the diet ranges from 0.93-1.62. Fish fed the mixture of Orange peel and Vitamin-mineral premix (ORG-VIT) and those on Tangelo and Vitamin-mineral premix (TGL-VIT) had higher survival rate. There were significant differences ($P < 0.05$) in the mean final weight, weight gain and specific growth rate. The result shows that citrus peels enhance the growth performance and feed utilization of the juvenile of African mud catfish, thereby reducing the cost of fish production.

Keywords : African mud catfish, growth, citrus peels, vitamin-mineral premix, nutrient utilization, additives

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