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Effect of low cost locally available ingredients on the growth performance of juveniles freshwater prwan *Machrobrachium rosenbergii* in the laboratory

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Abstract

Fiji has a strong demand for shrimp but farmers hardly meet the demand due to inadequate knowledge of local ingredients. A nutrition study was conducted to evaluate growth performance of juveniles of freshwater prawn, *Macrobrachium rosenbergii* with low cost formulated diets using locally available ingredients. *Experiment 1* included six diets (fish meal + wheat, Fish meal + meat bone meal + wheat, Fish bone meal + fish meal + wheat, Meat bone meal + wheat, Meat fish meal + fish meal + wheat and Meat fish meal + wheat). Diets for *Experiment 2* were Fish meal + wheat, Fish meal + meat meal, Fish meal + meat meal + crest tilapia pellet, Fish meal + meat meal + copra meal, Fish meal + wheat + pea meal and Crest tilapia pellet . Each experiment (6 diets x 3 replicates) was done in the Laboratory. Juveniles were fed twice a day for a period of three and four weeks in *Experiment 1* and *2*. Results indicated no significant ($P>0.05$) differences in water quality parameters. All nitrates, nitrites and ammonia concentration were less than 0.2 mg/L. Fat and crude fiber content was lowest and highest in crest pellet tilapia (4.60% and 17.98%). *Experiment 1* showed slight variations in the growth performance. In *Experiment 2*, crest tilapia pellet indicated better result in weight gain (7.04 ± 2.96 mm), carapace, abdomen and body length (4.74 ± 1.94, 5.57± 0.62 and 5.57± 0.62), specific growth rate (2.38 ± 0.53) and feed intake (1.31 ± 1.19) but no significant differences ($P\geq0.05$) were observed in either of the experiment. The cost of making each feed was almost same (0.53 – 0.58 Aus $/Kg). The findings indicate that the ingredient inclusion level for local ingredients available in Fiji for freshwater prawn juveniles *M .rosenbergii* could be quite flexible.

Biography

Khairul Azam has completed his Ph.D in 1990 from the University of Strathclyde, Glagow, U.K. He did his post doctoral from the University of Hull and University of Pertanian, Malaysisa. He worked as Researcher and Faculty for the last 27 years. He is a Professor at the University of Khulna, Bangladesh but presently on lien and working as Senior Faculty, School of Marine Studies, at the University of the South Pacific, Fiji. He has numerous publications to his credit and has attended national and international seminars and workshops. He was the Dean, Life Science School at Khulna University during 2002-2004.