

Effect of low-cost formulated diets on the growth performance and survival of giant freshwater prawn (*Macrobrachium rosenbergii*)

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The change from extensive aquaculture system to semi-intensive aquaculture system has resulted in an increased demand in aquaculture feeds. *Macrobrachium rosenbergii* is a potential candidate in development of aquaculture and to make it as an income generating activity for small-scale fish farmers in Hambanthota District. However, due to the unavailability of feed ingredients and cost-effective channels to deliver feeds to *M. rosenbergii* farmers have contributed to poor production and profitability. A study was conducted to evaluate growth performance of *M. rosenbergii* fed with two different low-cost formulated diets containing, fish meal, soya bean meal, maize meal, rice bran, coconut oil cake, wheat flower, fish oil, and vitamin mixture, and a commercial diet (i.e. imported prawn diet Tom boy) for a period of 180 days. The crude protein contents of the first formulated diet (treatment-1), the second formulated diet (treatment-2) and the commercial diet (treatment-3) were 30.01 ± 0.60 %, 27.20 ± 0.15 % and 32.00 ± 0.20 % respectively. The study showed that the growth rate, survival rate, feed conversion ratio and the total production of *M. rosenbergii* did not vary significantly ($p > 0.05$ One-way ANOVA) between the three feed types. The production costs for the treatment-1 and the treatment-2 formulated diets were approximately Rs. 130 kg⁻¹ and Rs. 110 kg⁻¹ respectively compared to the commercial diet which was around Rs. 200 kg⁻¹ in the local market. Therefore, formulated feed type 1 and 2 can be recommended as cost-effective feeds for the semi-intensive culture practices of *M. rosenbergii* in mud ponds particularly in the rural areas of the country.

Keywords: cost-effective feed, feed conversion ratio, crude protein, semi-intensive culture

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