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Suitability of Green Macroalgae Porteresia coarctata as a Feed Form Macrobrachium rosenbergii

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Abstract : Future use of animal protein sources in prawn feeds is expected to be considerably reduced as a consequence of increasing economical, environmental and safety issues. Of main concern has been the use of expensive marine protein sources, such as fish meal which often results in fouling of water quality and disease outbreak in cultured species. To determine prawn capacity to use practical feeds with plant proteins as replacement ingredients to animal protein sources, 8-months growth trial was conducted in two sets of ponds using juvenile (0.02 gm) Macrobrachium rosenbergii. Among the two sets, one set (comprising of three ponds) is experimental pond included formulated feed prepared with 30% Porteresia coarctata dust along with other general ingredients and another set (comprising of another three ponds) is control pond with commercial feed. Mean final weight, percent weight gain, final net yield, feed conversion ratio and survival were evaluated. Higher condition index values, survival rate and gain in prawn weight were observed in experimental pond compared to control pond. Low FCR values were observed in the experimental pond than the control pond. Evaluation of production parameters at the end of the study demonstrated significant differences ($P \geq 0.05$) among two ponds. The variation may be attributed to specially formulated plant based feed that not only boosted up the growth of prawns, but also upgraded the ambient aquatic health. These results indicate that fish meal can be replaced with algal protein sources in diets without affecting prawn growth and production.

Keywords : macrobrachium rosenbergii, porteresia coarctata, Indian sundarbans, feed
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