## Growth and Immune Response of Giant Freshwater Prawn Macrobrachium rosenbergii (De Man) Postlarvae Fed Diets Containing Chlorella vulgaris

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**Abstract :** A 50-day growth trial was conducted to evaluate the efficacy of Chlorella vulgaris (Beijerinck) as an ingredient in the diets of giant freshwater prawn Macrobrachium rosenbergii (De Man) postlarvae (PL30). Immune response (total haemocyte count and prophenoloxidase activity) was also assessed by subjecting postlarvae to a challenge test against Aeromonas hydrophila (Chester) for 14 days. Isonitrogenous and iso-lipidic test diets were prepared using a fishmeal-based-positive control diet (D0) and four basal diets with inclusion levels of 2% (D2), 4% (D4), 6% (D6) and 8% (D8) C. vulgaris. Postlarvae of M. rosenbergii were randomly stocked (mean initial body weight of 0.19  $\pm$  0.02 g) in 30-L tanks in three replicates per dietary treatment for evaluation of growth performance. Another set of postlarvae (mean initial body weight of 1.25  $\pm$  0.02 g) was randomly distributed in 95-L tanks in three replicates per dietary treatment for the assessment of immune response. Results showed that specific growth rate was significantly higher (P < 0.05) in postlarvae fed D4 and D6. Variations in values for carcass protein, lipid, moisture, and ash were also evident. Postlarvae fed diets with Chlorella showed increased prophenol oxidase activity and total haemocyte counts. Moreover, the survival rate after challenge with A. hydrophila was significantly increased (P < 0.05). Inclusion of C. vulgaris in diets enhanced immune response and resistance of M. rosenbergii postlarvae against A. hydrophila infection.

**Keywords :** Chlorella vulgaris, haemocyte count, Macrobrachium rosenbergii, prophenoloxidase activity **Conference Title :** ICANHW 2018 : International Conference on Animal Nutrition, Health and Welfare

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