

## Effects of Dietary Copper Supplementation on the Freshwater Prawn, *Macrobrachium rosenbergii*

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**Abstract :** The present study was performed to assess the effects of dietary copper (Cu) on growth, biochemical constituents, digestive enzyme activities, enzymatic antioxidant and metabolic enzymes of the freshwater prawn, *Macrobrachium rosenbergii* post larvae (PL). The Cu was supplemented at 0, 10, 20, 40, 60 and 80 mg kg<sup>-1</sup> with the basal diets. Cu supplemented diets were fed to *M. rosenbergii* PL for a period of 90 days. At the end of the feeding experiment, 40 mg kg<sup>-1</sup> Cu supplemented feeds fed PL showed significant ( $P < 0.05$ ) improvement in survival, growth, digestive enzyme activities and concentrations of biochemical constituents. However, PL fed with 60 to 80 mg Cu kg<sup>-1</sup> showed negative performance. Activities of enzymatic antioxidants, metabolic enzymes and lipid peroxidation in the muscle and hepatopancreas showed insignificant alterations ( $P > 0.05$ ) up to 40 mg kg<sup>-1</sup> Cu supplemented feeds fed PL. Whereas, 60 and 80 mg of Cu kg<sup>-1</sup> supplemented feeds fed PL showed significant alterations on these antioxidants and metabolic enzymes levels. It indicates that beyond 40 mg Cu kg<sup>-1</sup> diets were produced some toxic to *M. rosenbergii* PL. Therefore, the present study suggests that 40 mg Cu kg<sup>-1</sup> can be supplemented in the diets of *M. rosenbergii* PL for regulating better survival and growth.

**Keywords :** antioxidants, biochemical constituents, copper, growth, *Macrobrachium rosenbergii*

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