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## RESEARCH REPORTS

Sustainable Aquaculture for a Secure Future

**Title:** Impacts of inclusion of column feeder rohu (*Labeo rohita*) at different stocking densities on growth, production and environment in freshwater prawn-carp-mola polyculture system

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**Abstract:** The research investigated the impacts of inclusion of column feeder rohu (*Labeo rohita*) on growth and production in freshwater prawn-carp-mola polyculture system for a period of 172 days. Four stocking densities of Rohu were maintained as 500, 1,000, 1,500 and 2,000 ha<sup>-1</sup> in treatment R<sub>500</sub>, R<sub>1000</sub>, R<sub>1500</sub> and R<sub>2000</sub>, respectively in triplicates. All ponds each 120 m<sup>2</sup> were stocked with juvenile freshwater prawn (*Macrobrachium rosenbergii*), silver carp (*Hypophthalmichthys molitrix*), catla (*Catla catla*) and small fish mola (*Amblypharyngodon mola*) at the fixed stocking densities of 20,000, 1,500, 1,000 and 20,000 ha<sup>-1</sup>, respectively. Prawns were fed with pelleted feed twice daily started with 10% and gradually reduced to 3% of body weight and continued throughout the study period. All fish were fed with mixture of soaked rice bran and mustard oilcake (2:1) at the rate of 3% of the body weight daily. All the water quality parameters and chlorophyll-a were measured. The density of rohu significantly ( $P<0.05$ ) influenced the survival rate, growth and production of freshwater prawn. Catla and Mola production were affected adversely with increasing rohu density. The production of rohu increased with increasing density although the individual weight decreased. The combined production of all finfish was significantly lower in R<sub>0</sub> whereas, the combined production of all species including prawn did not differ significantly ( $P<0.05$ ) among the treatments. The treatments R<sub>0</sub> and R<sub>500</sub> fetched higher net profit without

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significant difference between them. Therefore, inclusion of rohu at a density of 500 ha<sup>-1</sup> may be recommended for prawn-carp-mola polyculture.

This abstract was excerpted from the original paper, which was in the *International Journal of Biological Research* (2013), 1(2): 48-54.

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