

## **Sardine Oil as a Source of Lipid in the Diet of Giant Freshwater Prawn (*Macrobrachium rosenbergii*)**

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**Abstract :** The freshwater prawn, *Macrobrachium rosenbergii* is a more popular crustacean cultured widely in monoculture system in India. It has got high nutritional value in the human diet. Hence, understanding its enzymatic and body composition is important in order to judge its flesh quality. Fish oil specially derived from Indian oil sardine is a good source of highly unsaturated fatty acid and lipid source in fish/prawn diet. A 35% crude protein diet with graded levels of Sardine oil as a source of fat was incorporated at four levels viz, 2.07, 4.07, 6.07 and 8.07% maintaining a total lipid level of feed at 8.11, 10.24, 12.28 and 14.33% respectively. Diet without sardine oil (6.05% total lipid) was served as basal treatment. The giant freshwater prawn, *Macrobrachium rosenbergii* was used as test animal and the experiment was lost for 112 days. Significantly, higher gain in weight of prawn was recorded in the treatment with 6.07% sardine oil incorporation followed by higher specific growth rate, food conversion rate and protein efficiency ratio. The 8.07% sardine oil diet produced the highest RNA: DNA ratio in the prawn muscle. Digestive enzyme analyses in the digestive tract and mid-gut gland showed the greatest activity in prawns fed the 8.07% diet.

**Keywords :** digestive enzyme, fish diet, *Macrobrachium rosenbergii*, sardine oil

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