Effect of Dietary Administration of Sardine Oil on Growth, Survival, and Enzymatic activity of Macrobrachium rosenbergii (de Man)

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(Received 26.1.11, Accepted 3.5.11)

Key words: Macrobrachium rosenbergii, diet, sardine oil, growth, enzymes, nucleic acids

Abstract
Five test diets were formulated using locally available feed ingredients: fishmeal, groundnut cake, rice bran, tapioca flour, and vitamin/mineral premix. Diets contained 35% crude protein with graded lipid levels. Sardine oil was incorporated at four dietary levels: 2.07%, 4.07%, 6.07%, or 8.07%, with corresponding total lipid levels of 8.11%, 10.24%, 12.28%, and 14.33%. A diet without sardine oil (6.05% total lipid) served as control. The diets were fed to giant freshwater prawns, Macrobrachium rosenbergii, for 112 days. A significantly higher weight gain was recorded in the treatment with 6.07% sardine oil and the specific growth rate, food conversion rate, and protein efficiency ratio were best in this treatment. The diet containing 8.07% sardine oil produced the highest RNA:DNA ratio in the prawn muscle, significantly similar to the ratio in prawns fed the 6.07% diet and significantly higher than in prawns fed the other diets. Digestive enzyme analyses in the digestive tract and midgut gland showed the greatest activity in prawns fed the 8.07% diet.

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