Nutritional Enhancement of Rotifer (*Brachionus rotundiformis*, Tschugunoff, 1921) and Brine Shrimp (*Artemia* sp.) with Spray-dried *Schizochytrium* sp. for Nursing of Seabass (*Lates calcarifer* Bloch, 1790) Larvae

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Abstract

Evaluation on enrichment of rotifer (*Brachionus rotundiformis*) and brine shrimp (*Artemia* sp.) with spray-dried *Schizochytrium* sp. at 3 levels, including 100, 200 and 300 mg/l for nursing of seabass larvae from 2 to 25 days was conducted. Results revealed that mean body wet weight and mean body length of the larvae fed on enriched rotifer and brine shrimp were significantly better than those fed on non-enriched rotifer and brine shrimp (p < 0.05), whereas no significance survival rate was obtained between the larvae fed on enriched and non-enriched rotifer and brine shrimp (p > 0.05). Two days earlier complete metamorphosis development was observed in the larvae fed on enriched rotifer and brine shrimp compared to those fed on non-enriched one. Higher percentages of n-3 HUFA, DHA and EPA were found in rotifer enriched with *Schizochytrium* sp. and the content of n-3 HUFA, DHA and EPA were increased according to the increased amount of *Schizochytrium* sp. While the n-3 HUFA and DHA content were increased in the brine shrimp enriched with *Schizochytrium* sp. but the EPA was increased nonsignificantly. The content of the n-3 HUFA, DHA and EPA in the larvae fed on *Schizochytrium* sp. enriched rotifer and brine shrimp were higher than those fed on non-enriched food which indicated that the fatty acids were accumulated in the larvae through the enriched food. The content of the n-3 HUFA and EPA were accumulated in the highest amount in the larvae fed on rotifer and brine shrimp enriched with 200 mg/l *Schizochytrium* sp. While the content of the DHA was accumulated in the highest amount in the larvae fed on rotifer and brine shrimp enriched with 100 mg/l *Schizochytrium* sp. It may conclude that the optimum enrichment content of spray-dried *Schizochytrium* sp. in rotifer and brine shrimp for nursing of seabass larvae should be 100 mg/l.

Key words: Spray-dried *Schizochytrium* sp., Unsaturated fatty acid, Docosahexaenoic acid (DHA) Seabass larvae, Rotifer, Brine Shrimp

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