

Partial replacement of local fish meal by brewers yeast (*Saccharomyces cerevisiae*) in the diets of sea cucumber (*Holothuria scabra*) juveniles

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The effects of brewers yeast in juvenile sea cucumber diets were investigated to examine the appropriate replacement level of CM fish meal[®] by dry brewers yeast powder. The feeding trial was conducted in a re-circulating tank system of the hatchery of Regional Research Center, NARA, Kalpitiya for 55 days. Four diets (T₁: 0% of brewers yeast (Basal diet; Control); T₂: 10% of local fish meal (LFM) replaced by brewers yeast; T₃: 30% of LFM replaced by brewers yeast; T₄: 50 % of LFM replaced by brewers yeast) were formulated. Twelve round and conical fiberglass tanks of 250 L were used and each feed randomly assigned to three replicates. 144 sea cucumber juveniles averaging 0.88±0.04 g were allocated into 12 tanks as 12 juveniles per each. After 55 days of feeding trial, final body weight, percent weight gain (PWG) and specific growth rate (SGR) of fish fed T₁ was significantly lower than those of fish fed T₂ ($P < 0.05$). SGR of fish fed T₂ was significantly higher than that of fish fed T₄ ($P < 0.05$). No significant differences were recorded in final weight and PWG of fish fed T₁, T₃ and T₄ diets ($P > 0.05$). No significant differences were recorded in SGR of fish fed T₁ and T₃, T₃ and T₂; and T₁ and T₄ ($P > 0.05$). The results of the study showed that the optimum replacement level of CM fish meal[®] by brewers yeast was closer to 10% without any effect. However increasing levels of Brewers yeast in the diet of sea cucumber can produce adverse effects. Also it shows brewers yeast would be a potential feed ingredient to enhance the growth and survival of juvenile sea cucumber (*Holothuria scabra*).

Keywords: brewers yeast, local fish meal, juvenile sea cucumber, *Holothuria scabra*

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