EFFECT OF DECAPSULATION OF ASIAN ORIGINATED BRINE SHRIMP *(Artemia salina)* ON THE GROWTH OF GUPPY (*Poecilia reticulata*)

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INTRODUCTION

Artemia salina nauplius is natures most convenient and nutritious live feed for growing larval fish but there are differences in nutritional value between different geographical strains of *Artemia. Artemia* with Canadian origin are the best quality and Asian origin *Artemia* are of very poor quality live feed for larval fresh water fish when characters such as nutritional values, amount of contaminants, hatching percentage of cysts and easiness of separation of nauplii from debris and shells are considered. The nutritional value and hatching percentage can be improved by the decapsulation method (Sorgeloos et al. 1983). In decapsulation, the shell and chorion of *Artemia* cysts can be dissolved without affecting the viability of the embryos. The use of decapsulation method eliminates the problems of separation of nauplii from shells other than the increasing of nutritional value and the hatchability. The effect of decapsulation of low quality Asian brine shrimp (*Artemia salina*) on the growth performance of guppy (*Poecilliae reticulata*) fry was tested with the objective of reducing the feed cost.

MATERIALS AND METHODS

The research was conducted at Orna fish (Pvt.) Ltd., Horana. Firstly, a study was carried out to find out the suitable salinity level required for maximum hatchability of *Artemia* cysts. Canadian origin *Artemia* cysts and Asian origin *Artemia* cysts without decapsulation and after decapsulation were hatched under 25, 30, 35, and 40ppt salinity levels and counted the number of hatched nauplii in one millilitre. To evaluate the quality of the Asian origin cysts before and after decapsulation, feeding trial was conducted and measured the growth performances of fish fry by comparing with Canadian type.

Day-old Blue-neon guppy fry were randomly selected and stocked in six tanks of 3x4.5m (733 fry per squire meter). Two tanks were fed with Canadian type (Feed-1), two tanks were fed with Asian type hatched with out decapsulating the cysts (Feed-2) and remaining two tanks were fed with Asian type hatched after decapsulation (Feed-3). The weight and length measurements of fry were taken every third day until the end of the period. Fry were randomly sampled to investigate for parasites and pathogenic bacteria. Temperature, pH, nitrite and ammonia concentration in water were measured daily.