Eunice A Layugan, J Aquac Res Development 2016, 7:6 (Suppl)
http://dx.doi.org/10.4172/2155-9546.C1.005

Polyculture of freshwater clam *Batissa violacea* and genetically improved farmed tilapia (GIFT) *Oreochromis niloticus*

Eunice A Layugan
Cagayan State University-Aparri Campus, Philippines

Batissa violacea is a freshwater clam that is commercially important species and prevalent in Cagayan River, Philippines. This clam is the most expensive freshwater clam in Northern Philippines that supports the food supply and economic livelihood of many coastal communities. The population of this species in the wild has been dwindling due to over-exploitation and environmental changes. This study has been conducted to determine the potential of culturing the filter-feeding freshwater clam, *B. violacea*, with genetically improved farmed *Tilapia* (GIFT) strain of Nile *Tilapia Oreochromis niloticus*. For 120 days, the growth performance of clam juveniles (initial shell length: 31-35 mm) was compared under two culture methods: (1) monoculture with stocking density of 25 clam/m3 (T1),50 clam/m3 (T2), 100 clam/m3 (T3), and 200 clam/m3 (T4) and (2) Polyculture in combination with GIFT fingerlings (initial average weight: 10 g) added at 20 fish/m3 on each clam stocking density treatment (T1-T4) similar to those in monoculture. The treatments for monoculture and polyculture have three replicates each in randomized complete block design using 2×4 factorial design. The results were analyzed using two-way Analysis of Variance (ANOVA) and Duncan's Multiple Range Test (DMRT). The freshwater clam grown in polyculture with tilapia grew faster than those in monoculture. The highest density of 200 clams/m3 (T4) in both polyculture and monoculture showed significantly lower shell length growth compared with the lowest stocking density at 25 clams/m3 (T1); but no significant difference ($p>0.05$) was found with the stocking densities at 50 clams/m3 (T2) and 100 clams/m3 (T3). The average increase in weight of *B. violacea* was inversely proportional with stocking density with the highest weight gain recorded at the lowest density 25 clams/m3 (T1). Although there was variation in growth at different stocking densities and culture methods, the interaction effect between two factors was not significant. Survival rate of *B. violacea*in polyculture, ranged from 94-97%; while in monoculture, the survival rate ranged from 94-96%. Biomass production was directly related to stocking density in both culture methods.

Biography

Eunice A Layugan has completed her PhD in Fisheries (Aquaculture) at the University of the Philippines College of Fisheries and Ocean Sciences Miag-ao Iloilo. She is the current Campus Executive Officer of CSU-Aparri Campus and the former Dean of the College Fisheries and Marine Science and Director for Fisheries Research. She has pioneered on endemic Clam Project, *B. violacea* from Cagayan River for almost 20 years with almost 25 research studies conducted in various commodities. She is the only researcher in the entire Philippines working on this species and was awarded most Outstanding Agricultural Scientist at both Provincial and Regional level in June 2004-2005, July 2011-2012. She has presented papers in international, national and local levels and has published in international journals along with written manuals, leaflets and patents.

eunicelayugan@yahoo.com

Notes: