Evaluation of Pacific white Shrimp *Litopenaeus vannamei* (Boone, 1931) culturing management in Teyab farms, Hormozgan, Iran

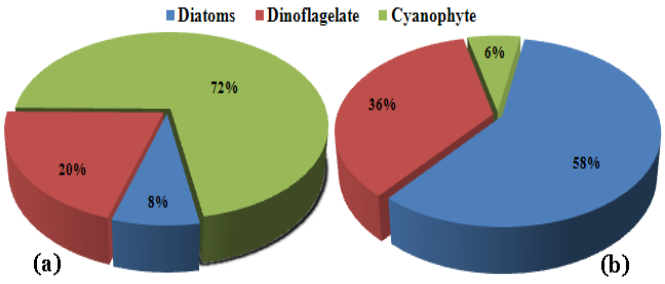
Kiuomars Rohani-Ghadikolaei[*]; Eesa Abdolalian[*]; Hojatollah Fourooghifard[*]; Maryam Moezzi[*]; Mohammad Seddiq Mortazavi[*]

[*]*Persian Gulf and Oman Sea Ecological Research Institute, Iranian Fisheries Research Science Organization, Agricultural Research, Education & Extension Organization, Tehran, Iran*

Abstract:

Due to outbreak of white spot disease (WSD) in 2004, that caused mass mortality of the indigenous species *Penaeus indicus* in southern shrimp farms of Iran, *Litopenaeus vannamei* has introduced to Iranian shrimp culture industry, and now is farmed in southern and northern coastal parts of Iran on a commercial scale. Considering shrimp farming is as a new and improving aquaculture practice in Iran, it faces some challenging problems in term of culturing management that need to be monitored. The present study purposed to assess the performance of shrimp farming management in 3 randomly selected farms in Teyab, Hormozgan, Iran. The results showed that, although the greatest diversity in the Teyab farms were related to diatoms, but cyanophytes showed higher density than the diatoms (figure 1). The results indicated that during the culturing period, mean values for temperature, salinity, pH and dissolved oxygen (DO) were not significantly different in farms, whereas the levels for Chlorophyll-*a* (Chl-*a*) and total organic matter (TOM) showed the highest content onwards to the end of culturing period (Table 1). Positive correlation was found between pH and water temperature, pH and DO, pH and ammonia; Chl-*a* and DO; growth parameters and DO, growth parameters and Chl-*a*. However a negative correlation was observed between TOM and pH, TOM and water temperature, TOM and ammonia, TOM and pH; Chl-*a* and water temperature, Chl-*a* and salinity, Chl-*a* and transparency; growth parameters and salinity, growth parameters and pH, growth parameters and ammonia. However, water quality parameters should be monitored to serve as guide for managing a pond so that conditions that can adversely affect the growth of shrimp can be avoided.

Figure 1: Phytoplankton Density (a), Species Diversity (b), in shrimp farms



	O_2	Temp.	Salin.	pH	NO_2	TOM	Amm.	Chl. *a*
O_2	1							
Temp.	-0.08	1						
Salinity	-0.23^{**}	0.52^{**}	1					
pH	0.16^{*}	0.74^{**}	0.40^{**}	1				
NO_2	-0.03	0.44^{**}	0.34^{**}	0.53^{**}	1			
TOM	0.22	-0.72^{**}	-0.57^{**}	-0.65^{**}	-0.64^{**}	1		
Ammonia	-0.32^{**}	0.26^{**}	0.31^{**}	0.29^{**}	0.08	-0.35	1	
Chl. *a*	0.20	0.79^{**}	0.63^{**}	0.61^{**}	0.42^{**}	-0.72^{**}	0.23^{**}	1

Table 1: Correlation between physiochemical parameters in shrimp farms

Recent Publications:

Rohani-ghadikolaei K., Abdulalian, E., Gharibnia M., Fouroghi H. and Ng, W.K. 2015. The nutritional effect of *Isochrysis galbana* and *Chaetoceros muelleri* cultured with different seaweed extracts on the larval development, growth and survival of the marine shrimp, *Penaeus indicus. Aquaculture Research*, Vol. 46: 1444–1454.

Rohani-ghadikolaei K., Abdulalian, E., Aghajari N., Aftabsavar, Y. and Ng, W.K. (2012). The effect of seaweed extracts, as a supplement or alternative culture medium, on the growth rate and biochemical composition of the microalga, *Isochrysis galbana*. Aquaculture Research, Vol. 43: 1487–1498.

Rohani-ghadikolaei K., Abdulalian, E. and Ng, W.K. (2012). Evaluation of the proximate, fatty acid and mineral composition of representative green, brown and red seaweeds from the Persian Gulf of Iran as potential food and feed resources. *Journal of Food Science and Technology*. Volume 49:774-780.

Rohani-Ghadikolaei, K.; Abdolalian E; Fourooghifard, H.; Moezzi, M.; Gharibnia, M.; Dehghani, R.; Mortazavi, M.S. 2015. Growth characteristics of bloom forming *C. polykrikoides* based on Laboratory conditions. Paper presented at the *Middle East and Central Asia Aquaculture 2015*, 14-16 December, 2015, Tehran, Iran

Biography:

Kiuomars Rohani-Ghadikolaei has completed his PhD at the age of 42 years from University Science Malaysia (USM), Malaysia. He is the head of Aquaculture Department of *Persian Gulf and Oman Sea Ecological Research Institute* affiliated to *Iranian Fisheries Research Sciences Organization*. He has published more than 4 papers in reputed journals and presented more than 6 papers in International Conferences; as well as has been serving as an editorial board member of *Iranian Fisheries Research Journals.*

Presenting author details:



Full Name: **Kiuomars Rohani-Ghadikolaei**
Contact number: **+989173685186**
Twitter account:
Linked In account:
Session name/ number: **Sustainable aquaculture**
Category: **Oral presentation**
Passport Number: **J30564840**