

The effect of spirulina (fresh and dry) on some biological factors in and *Penaeus semisulcatus* larvae

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Spirulina is a filamentous cyanobacteria with many applications in food and drug industries, as a food in human, aquaculture, pet and poultry industries. Semi and mass culture of Spirulina carries out in different countries. This study was carried out in five phases in order to produce this microalga in Iran. The first phase, Spirulina pure stock was imported from Indonesia. After identification of species, it was cultured in laboratory until we took 20 liters of biomass. The semi-mass culture was carried out in green house. Cell concentration and size of Spirulina were recorded during culture daily and their growth rates were calculated. After two weeks, when the size of Spirulina was suitable, biomass of Spirulina was harvested then accumulated Spirulina weighted and dried in 24 hours in laboratory. In order to microbiological study, the samples of Spirulina (dry and fresh) were cultured on blood agar medium and coliforms were counted. The chemical composition of produced Spirulina was measured by standard methods. Fatty acid and amino acid profiles were acquired by GC and HPLC instruments, respectively. The amount of chlorophyll in Spirulina was determined by spectroscopy method. Also astaxanthin pigment as an important carotenoid was measured by HPLC in Spirulina and *Penaeus semisulcatus* larvae fed on Spirulina. At final phase of this project, larva fed on produced Spirulina (biomass and dry powder) was compared to Z plus, microencapsulated Spirulina (M.C.F) and *Chaetoceros* algae as control. This experiment was carried from zoea to early post larvae stage then survival and growth rate of larvae were recorded. The growth rate of larvae was evaluated with ANOVA test and survival rate of treatments was assessed by Log Rank (Mantel -Cox) test. Also during larvae stage, two parameters of water such as nitrate and nitrite were measured in zoea, mysis and post larvae stages.

Biography

Mansoreh Ghaeni has completed his Ph.D. at the age of 27 years from Islamic Azad University Science and Research of Tehran Branch and she is expert in phycology and aquaculture. Now she is the head of Fisheries department in Islamic Azad University Ahvaz Branch. She has published more than 50 papers in reputed journals or international conference and has been serving as an editorial board member of marine biology and wetland journal. She carried out about 10 projects about microalgae culture and aquaculture.

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