

Feasibility study of introducing *Litopenaeus vannamei* to Khuzestan province with emphasis on prevented of white spot syndrome virus

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Abstract

Litopenaeus vannamei is native to the eastern Pacific Ocean, from Mexico to northern Peru, and has dominated shrimp farming for many years. This species was initially introduced into Iran for research purpose in the late 2004 by Iranian Fisheries Research Organization (IFRO). At the first time IFRO imported 80 SPF brood stocks from Hawaii and produced 500,000 PL from these brood stocks and culture during 120 days. There are a number of advantages in culturing *L. vannamei* over *P. indicus*. This species (*L.vannamei*) has a potential to grow as fast as *P. indicus* (1.0 to 1.5 g/wk) under Iranian culture condition. The stocking density of this species is higher than *P.indicus* and it enable the production of high number of shrimp in limited area, resulting better production per unit area. The stocking density of *P. indicus* in Iranian condition is (22 to 25/m²) and for *L. vannamei* is (35 to 40/m²). *Litopenaeus vannamei* tolerate a wide range of salinity from 0.5 to 45 ppt, but it can growth better at low salinity. Because many shrimp farm in Iran has the same condition and it is prefer to native species. Although *L.vannamei* will tolerate a wide range of temperature, it grows best between 23- 30oc and can tolerate temperature down to 15 oc and up to 36 oc. In Iranian condition the average temperature is between 25-35 oc and this range of temperature is a suitable for this species. Another important advantage is ease of breeding and domesticated of *L.vannamei* that comparing by *P. indicus*. Because this species is open thelycum species, meaning that they can be induced to mate and spawn easily in captivity which enable the culturist to close the life cycle of the shrimp, facilitating genetic selection and domesticated programmes. In this paper I bring the detail information about the advantage of *L. vannamei* introduction In Iran. Determination mean weight, survival rate, food conversion ratio and total harvest in shrimp cultured *Litopenaeus vannamei* in Iran was studied by choosing four experiment with stocking 30 PL 12/m² (Experiment 1), 25 PL 12/m² (Experiment 2), 20 PL 12/m² (Experiment 3), 20 PL 17/m² (Experiment 4) for this research. The survival Rate (S.R), Mean Weight (M.W), Food Conversion Ratio (FCR) and Total harvest measured during 100-120 days. The stocking of farms carried out after preparing farms. The result showed highest M.W was in Experiment 4(16/18) and lowest was in experiment 3(14/83). The highest survival rate was in experiment 3(%88/6) and the lowest in experiment 2 (%75/33). The results also showed highest FCR in experiment 3(1/22) and the lowest was in experiment 1(1/01). The highest total harvest was experiment 3 (4000Kg) and the lowest was experiment 4 (2500Kg). The final result showed *L. vannaemi* is a good species for shrimp biodiveristy in Iran.