

Abstract

In this study, was measured heavy metals concentration (Cu, Zn, Cd, Ni and Pb) of bottom sediments and muscle tissue of Western white leg Shrimp (*Litopenaeus vannamei*) in Rig Port, Helle and delvar farms located in Bushehr Province. In order, sampled was done of sediment and muscle tissue of 27 cultured ponds in various farms and in the final of the growing period, 1390. was measured heavy metals concentration in the samples after preparation and digestion, by Varian atomic absorption, model spectr AA 200. According the results obtained, the there was a significant difference for Cu metal in bottom sediments of Rig farms. Also Were identified by comparing the three cultured sites that was a significant for Zn and Ni metals in muscle tissue samples Rig, Helle and Delvar sites. Obtained concentration range of metals Cu, Zn, Cd, Ni and Pb in muscle in sediments order; 20.07-21.60, 49.88-54.51, 5.82-7.43, 7.71-9.19 and 14.03-15.87 and in muscle tissue; 19.54-20.29, 47.83-56.75, 6.83-7.72, 8.18-9.18 and 7.93-8.84 $\mu\text{g/g/dw}$. Also was heavy metals sequence in sediments; Zn> Cu> Pb> Ni> Cd and in muscle tissue; Zn> Cu> Ni> Pb> Cd. Zn and Cu metals had the highest concentration in comparison other metals in sediment and muscle tissue samples respectively. Concentration of Cu and Cd metals in sediment was higher than amount specified in the Canadian sediment quality, American sediment quality standards and as well as Newyourk sediment classification. It seems that not so important amount of Cu in farms sediments of Bushehr Province environmentally, but maybe Cd metal be problematic for this cultured shrimp, so should pay more attention to this metal and its possible sources . concentration of Zn, Ni and Pb metals in this culture farms sediments is under of amount specified in this standards, So does not risk for this Shrimp. Also, was compared range of concentration in muscle tissue to FAO, WHO and FDA standards. Comparisons results showed the Cd, Ni and Pb in muscle tissue is higher than terms of permissible level for human consumption and need more supervision.

Key words : Heavy metals, Food safety, *Litopenaeus vannamei*



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**Heavy metals concentration (Cu, Zn,
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and muscle tissue of *Litopenaeus
vannamei* in farms of Bushehr
province**

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