Mumdoh Elhassan Abdalla Elhassan, J Aquac Res Development 2016, 7:11(Suppl)
http://dx.doi.org/10.4172/2155-9546.C1.011

Assessment of biological treatment of red sea water contaminated by organic phosphate using aquatic seashells

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The most dangerous threaten to marine environment is the sea water contamination. This study assessed the biological treatment of contamination in Dongonab in red sea using aquatic seashells. In this study, the seashells were bred (pearl oyster) and kept in a closed basin in a managed natural reserve for a period of six months. The concentration of chemical contaminants (organic phosphates) in water was measured, and seashells samples were collected from the area (before and after the experiment). 60 samples of sea water were collected from the farm from the depth of the 220 cm because they may contain the largest amount of pollutants. Chemical measurements were conducted in a laboratory in the reserve. This study is done to assess the capabilities of seashells for the filtration of these chemical contaminates, The study found a decrease in phosphate concentration from an average of (32.95 mg/L) to (1.75 mg/L) and within a period of 36 hours from the filtration and an increase in ammonium concentration from an average of 4.51 mg/L in the contaminated water to an average of 20.87 mg/L, and therefore, a significant increase of planktons (the basic material of the biodiversity). The study concluded that marine seashells farms can contribute naturally and effectively in reducing the spread of chemical contaminants (especially organic phosphate) and thus, can contribute to increase the biodiversity. This research recommends studying the bioremediation and natural treatment of chemical pollution by using the seashells in open sea or in the farm of the seashells.

Biography

Mumdoh Elhassan Abdalla Elhassan has completed his MSc at Gezira University. Currently, he is pursuing his PhD at Institute of Endemic Disease, University of Khartoum.

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