

Abstract

Currently, aquaculture production systems have progressively intensified. Despite their high output, the intensive culture practices have adverse and negative impact on the environment. They are associated with both uncontrolled use of feed and massive production of waste which if released into the environment untreated, it deteriorates the water quality, leads to eutrophication, causes and spreads parasite and diseases and causes metals and antibiotics pollution. Other impacts include destruction and/or alteration of natural habitats, depletion of wild stocks, and salinization of adjacent soils and change of biodiversity. These risks and impacts from aquaculture have often being criticized by environmental organisations and politicians and has generated great scientific interests and great advocacy for undertaking mitigation measures. Bioremediation techniques which are widely known to be environment friendly, healthy, efficient and cost-effective methods for improving the quality of aquaculture waste have been proven to reduce environmental damage. In addition, bioremediation techniques in aquaculture are easy to implement and maintain, can be performed on-site and/or off-site, and reduce the amount of waste to be landfilled. In the present work, we review the various types and mechanisms of bioremediation strategies that could be applied for ameliorating negative impacts of the aquaculture effluents to the environment.