

The Use of Tropical Aquatic Microfungi *Rhizopus solonifer* Isolated From Telaga Warna Lake - Bogor as Bioremediation Agent in Freshwater Ecology

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Abstract

Environmental contamination is a change of physical, chemical, and biological characteristic in air, soil, and water. Contamination accor when there is disturbance in material cycle that substance production rate exceed the elision rate and utilizing rate of that substance. Aquatic contamination can be causes by chemical and biological pollutan, oil spills, leakage from domestic waste tips, and eutrophcation caused by nitrogen and phosphorous sources. Environmental hazards and risk that occur as a result of accumulated toxic chemical or other waste and pollutans could be reduced or eliminated through the application of biotechnology in the form of biotreatment or bioremediation. Bacteria, fungi, plants, and other microorganism can be agent of bioremediation by remove, dgrade, or detoxify pullution. In this study, 24 kinds of microfungi was identify and characterization with 9 genus (*Abisidia*, *Acremonium*, *Aspergillus*, *Cephalosporium*, *Mucor*, *Penicillium*, *Trichoderma*, *Monilia*, and *Rhozopus*). *Rhizopus solonifer* have fastest growth rate in this researches, and can produce liphase enzym. Bioremediation abiliy test was attended to evaluate the ability of *R. solonifer* as bioremediation agent. The research show that *R. solonifer* can degrade vegetable oil 52,38% in 385,1 ppm of oil concentration and 60,06% in 500 ppm. *R. solonifer* also can decrease COD (*Chemical Oxygen Demand*) value 70,27% in 385,1 ppm oil concentration and 77,78% in 500 ppm. From this study we can conculde that *R. Solonifer* or the other detritus aquatic micofungi has a good opportunity to be a bioremediation agent in aquatic ecology.