Biodiesel Production from Sewage Sludge

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The potential of biodiesel production using municipal sewage sludge as a lipid feedstock for was investigated. Despite the bright prospect of biodiesel production, efforts to commercialize it have been very limited. One of the major obstacles has been the high price associated with refined oil feedstock, which makes up nearly 70–75% of the total production costs. Hence, in order to reduce the cost of biodiesel production, using cheaper feedstock such as waste oil or low-quality oil has been proposed. Efforts to reduce biodiesel cost include the use of cheap, non-food sources of oil (i.e. from non-food crops such as jatropha, castor, neem, and karanja, used frying oil, microalgae, microbial biomass and activated sludge) and process modifications to combine the oil extraction and fuel conversion steps (i.e. in situ transesterification). Especially, sewage sludge, a relatively inexpensive feedstock, is a promising raw material for such a purpose. In this study, it is aimed to review biodiesel production technology from sewage sludge as a lipid feedstock. It is process modifications to combine the oil extraction and fuel conversion steps (i.e. in situ transesterification) and thermo-chemical process with non-catalytic heterogeneous biodiesel production from sewage sludge