

P-BESBH-Production of biofuel ethanol from seagrass biowaste by using halotolerant microbes

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Global warming is caused due to the increasing amount of green house gases to the atmosphere. About 73% of the CO₂ is liberated due to fossil fuel. So, there is an urgent need for the alternative energy to solve the above problems. Recently, bioethanol, biodiesel and biogas have been used worldwide. Among them, bioethanol is the leading alternative energy derived from the various lignocelluloses substrates such as vegetable wastes, fruit peels, wheat straw, sugar beet, corn, paddy straw, wood and agricultural wastes. Large amount of seagrass has been deposited in the Palk Strait region when compared with the other coastal regions of Tamil Nadu. The deposited seagrass on the shore produce unpleasant odour along the coast which may create an anoxic condition to the marine organisms. The present study made an attempt to find out the possible bioethanol production from seagrass wastes by using marine microbes and thus it also helps to clean-up the coastal areas. The present study has surveyed seagrass resources along the coastline of 168 Km long by considering several coastal land forms. Experiments were conducted with pretreated seagrass biowastes as substrate at different pH and incubation time for the ethanol production by isolated marine yeasts. The potential isolates were identified through molecular techniques and deposited in the GenBank under the accession number JF922862, JF922863, JF922864 and JF922865. The pretreated biomass were characterised through FT-IR, XRD, TGA-DTA, SEM and thermal stability analysis. The spent wastes were also reutilized for the cultivation of milk mushroom *Calocybe indica*.

Biography

S. Ravikumar has completed his Ph.D. at the age of 28 years from Annamalai University, Tamil Nadu, India and postdoctoral studies in Germany and Mauritius. He is Professor in the Department of Oceanography, Alagappa University, Thondi. He was a co-ordinator in Alagappa University Evening College, Thondi (2008-2012) and now holds Principal i/c in Alagappa University Arts and Science College, Paramakudi Since 2012. He has published more than 118 papers in reputed journals and 5 books and also serving as an editorial board member of reputed. He has completed 28 his Ph.D. at the age of 28 and M.Phil research scholars at the age of 44 and filed 2 patents.

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