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EXTRACTION OF OIL FROM ALGAE FOR BIODIESEL PRODUCTION

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1. Department of Chemical Engineering, Balochistan University of Information Technology, Engineering and Management Sciences Quetta, Pakistan Email: abeera.malik@buitms.edu.pk The world is facing the energy shortage and environmental issues in this century due to increased industrialization and overuse of natural resources such as fossil fuels. The burning of fossil fuels generates greenhouse gases which aggravate the global warming. Researchers across the world are focusing on renewable, less CO2 and NOx emissions transport fuels. These fuels are important for sustainability and green economy. Bio-diesel from Algae is emerged as the promising alternative fuel, technically and environmentally acceptable and easily available. In this study different parameters of Oil extraction processes were studied. Samples of algal species Spirogyra were collected from Chashma chuzai Quetta, Pakistan and employed as a feedstock for biodiesel production. In the first step, oil from Spirogyra was extracted using n-Hexane as solvents. Effects of solvent to oil ratio, size of algal biomass and contact time on the percentage yield of oil extracted was studied and analyzed. It was observed that maximum amount of oil was extracted from Spirogyra biomass by using the greater ratio of solvent to algal biomass, maximum contact time, smaller algal biomass size.

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