Role of phycoremediation for nutrient removal from wastewaters: a review

ABSTRACT

The presence of high concentrations of chemical oxygen demand (COD), biochemical oxygen demand (BOD) and nutrients in wastewater generated industrially or domestically has resulted in significant water pollution situations and subsequently is leading to adverse health problems. Algae have been used in various applications in environmental biotechnology especially for phycoremediation as a tertiary wastewater treatment strategy through assimilation of high concentration of nitrogen and phosphorus for their growth, thus reducing potential eutrophication problems. This article discusses the role of phycoremediation to remove COD, BOD and nutrients from wastewater. The mechanism for nutrient removal from wastewater, challenges to process development and current commercial-scale algae-based wastewater treatment are reviewed too. It appears that phycoremediation plays a vital role to treat wastewaters efficiently.

Keyword: Microalgae; Wastewater pollution; COD; BOD; Efficiency