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STUDIES ON MASS CULTIVATION OF CHLORELLA VULGARIS AND EFFECTIVE HARVESTING OF BIO-MASS BY LOW-COST METHODS

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ABSTRACT

In recent years, microalgae apart from being used as single-cell proteins, they are projected as living-cell factories for the production of bio -fuels and various beneficial bio -chemicals used in food, aquaculture, poultry and pharmaceutical industries. The purpose of this study was to cultivate a green micro alga, Chlorella vulgaris, isolated from industrial effluents, using a suitable growth medium in a large-scale High Rate Algal (HRA) pond. The bio-molecules such as total protein, total carbohydrate and total lipid, and the pigments chlorophyll, β-carotene, were analyzed at regular intervals during cultivation. In addition, the total bacterial cell numbers were enumerated during the study and their influence on algal growth was studied. The algal biomass was harvested by low-cost methods such as settling using flocculants and auto-flocculation.

KEY WORDS: CHLORELLA VULGARIS, MASS CULTIVATION, OUTDOOR HRA POND, BIOMASS, HARVESTING.