Microbial nitrogen and phosphorus recovery from industrial effluent

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ABSTRACT

The biological nutrients removal of beverage (treated and untreated) effluent was examined in this study by using the potential strains of bacteria and fungus. After one week of incubation, these bacteria and fungus showed the high removal competence; bacteria removed nitrogen99.90 ± 0.4% and fungus 81.25 ± 0.8% in treated effluent whereas phosphorus removed about 99.95 ± 0.7 % by bacteria and 95.69 ± 1 % by fungus (Initial concentration of nitrogen 3200 ± 0.5 mg/land phosphorus 4400 ± 2 mg/l). Next, bacteria removed nitrogen 99.93 ± 0.5 % and fungus99.95 ± 1.2 %in untreated effluent whereas phosphorus removed about 99.81 ± 1 % by bacteria and 99.85 ± 0.8 % by fungus (Initial concentration of nitrogen 4400 ± 0.6 mg/l and phosphorus 2600 ± 1 mg/l). The physiochemical composition of treated and untreated effluent such as PH, total proteins, total carbohydrates, total solids were also investigated in the before and after treatment of both samples.

Keywords: Bacteria, fungus, total proteins, total solids

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