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PHYCOREMEDIATION OF WASTEWWATER BY *Oocystis* sp.

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Phycoremediation refers to the use of algae (including Cyanobacteria, microalgae, and macroalgae) in the industrial processes for pollutant removal or to derive products from wastewater, for example algal biomass. Microalgae used in the phycoremediation system are photosynthetic phytoplanktonic organisms, which form the first link of the aquatic food chain and represent the main component of the aquatic ecosystem. The objective of this work was to study the efficiency of phosphate and nitrate removal of municipal wastewater by native microalgae *Oocystis* sp. The samples of microalgae were collected with a phytoplankton net from local water bodies of San Luis. In order to separate algal populations, standard plating method was applied BBM (Bold's Basal Medium) and then *Oocystis* sp was grown in cultures at 25±2°C, with continuous illumination of 3000 lux for 14-16 days. The initial biomass(6 10 6 cells mL-1) was exposed for 10 days to four dilutions of an urban effluent (25/100 mL, 75/100 mL, 50/100 mL and 100/100 mL respectively) and a control sample . The chemical determinations of phosphates and nitrates were analyzed by Standard Methods for Examination of Water and WasteWater (APHA, 2005). Within 10 days of exposure, phosphate was almost completely removed from the wastewater effluent by algae in the 50% and 100 % dilutions while nitrate was efficiently removed at 34, 5% with respect to control. These results suggest that *Oocystis* sp could be used to remove N and P from wastewaters enhancing nutrient removal. The native species cultures have a high potential to remediate and the phycoremediation technology or integrating into the conventional systems, wherever feasible, seems to be a more economic and eco-friendly remedy.

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SELECTION OF MICROORGANISMS RESISTANT TO THE EFFLUENT DISCHARGED IN A LANDFARMING IN THE CITY OF SAN LUIS

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Bioremediation carried out by indigenous microorganisms is one of the main mechanisms by which different contaminants can be naturally eliminated from the environment. The success of a bioremediation process depends on the intrinsic capacity of the system to trigger and maintain conditions that promote the contaminants biodegradation at high rate. The objective of this work was to study the microorganism's resistance capacity to resin effluents for their use in the bioaugmentation process. The isolated microorganisms from landfarming, in previous works, were seeded in solid Eg medium (g /L: glucose 10; K_2HPO_4 0.5; KH_2PO_4 0.5; yeast extract 1; agar 15) pH 6,0± 0,2, incubated until growth at 29°C. A central channel was made in each plate in which the effluent diluted to 50% was added. On the other hand, the inhibition effect between the different strains of bacteria and fungi was tested. And finally, a quantitative test was carried out in 10 mL of LB glu liquid medium (g/L: glucose 10, yeast extract 5, peptone 10, sodium chloride 5) at different concentrations of the resin effluent (25%, 50% and 75%) at 150 rpm to analyse the individual resistance of the microorganisms to the effluent. Culture medium and water were used as reference. From these tests, four resistant microorganisms (bacteria and fungi) were obtained, which did not show inhibition among themselves. Furthermore, growth of the microorganisms could be visualized at all effluent concentrations tested, being faster and greater at highest concentrations of effluent. The latter, shows that microorganisms use the effluent as a source of carbon and energy for its growth. The microorganisms isolated from landfarming are capable of using the effluent and therefore degrading it, a fundamental activity for bioaugmentation processes with autochthonous microorganism in the landfarming.

HUMAN CLINICS AND ODONTOLOGY

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BRAIN HEALTH AND ALZHEIMER'S DISEASE. KNOWLEDGE AND PERCEPTION IN SAN LUIS

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