

Effect of Chromium on Mucor species and optimization of growth conditions

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Abstract :

Czapek Dox broth medium is frequently used for the culture of fungal species like Mucor. The influences

of incubation period, pH, Cr (VI) concentration, temperature on the concentration of biomass were also evaluated. At pH 5.5, the fungi Mucor species yields maximum biomass and the fungus can be able to degrade chromium to a particular concentration but at higher concentration growth reduces. From a practical viewpoint, this abundant and inexpensive fungal biomass has potential application in the conversion of toxic Cr (VI) into less toxic or nontoxic Cr(III). Maximum biomass weight was observed which is about 0.33 ± 0.01 mg/20ml at a constant temperature of 350 C with an incubation period of 8 days. The protein content of the fungus was estimated and it was found that maximum yield of protein was recorded in the presence of 0.005 mM of chromium. [Nature and Science 2010;8(4):29-32]. (ISSN: 1545-0740).

Key Word :

Biomass; Mucor species; Czapek Dox medium; incubation period.

Volume 8, Number 4, April 2010 , ISSN 1545-0740