EVALUATED OF THE INCORPORATION OF CADMIUM BY YEAST ISOLATED FROM THE FERMENTATION OF CACHAÇA

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Industrial and agricultural activities have as by-products several metals that, if not recovered or, submitted to treatments, can contaminate the environment. The treatment of diluted liquids effluents (concentration of metal below to 100ppm) is economically unviable when treated by conventional chemical methods. In these conditions the use of bioremediation, that is, the use of biological organisms living or dead, might represent a viable alternative. Brazil has a big production of yeast as a by-product of the fermentation of sugar cane for the production of ethanol or, artisanal cachaça. This research evaluated the capacity of 11 isolated yeast of the fermentation for the withdrawal of cadmium. Two processes were used for the incorporation of the metal: bioaccumulation (use of living cells) and biosorption (use of dead cells). The results obtained are compared with the yeast strain of *Saccharomyces cerevisiae* of laboratory (W303 -WT). The cadmium tolerance with increased concentration was evaluated. Parameters of oxidative stress such as: peroxidation of lipid, carbonylation of protein and generation of free radicals using 2,7dichlorofluorescein was determined. Theses parameters were altered in presence of cadmium.

Key words: bioremediation – cadmium –- carbonylation of protein - peroxidation of lipid.