

CAPACITY OF *IRPEX LACTEUS* TO DECOLORIZE VARIOUS TEXTILE DYES

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Synthetic dyes are often used because of their simplicity and color variety, although the increased usage of synthetic dyes creates worldwide environmental ecological problems. It has been estimated that during the manufacturing process of synthetic dyes a high amount of dye is lost and gets released into the environment as effluent [1]. Effluent containing textile dyes is particularly harmful, since a very small amount of dye is enough to cause a visible difference and that synthetic dyes often contain cancerogenic compounds [2]. Traces of dye should be processed and removed from the effluent before releasing it into the environment in order to minimize the damage caused. Traditional methods are quite ineffective or expensive which is why an alternative method for the removal of textile dyes is sought for. One of these methods is the use of microorganisms, in particular white rot fungi [3].

This study describes the ability of a Basidiomycetes fungi isolate - *Irpex lacteus* to decolorize various textile dyes of three different types: acid, reactive and direct. The ability of the isolate *Irpex lacteus* to biodegrade textile dyes in Petri dishes containing malt extract agar supplemented by textile dyes was evaluated during a 7-day incubation period [4]. It was determined that *Irpex lacteus* proved to be an efficient degrader of all the investigated types and colors of textile dyes within the 7-day period. Furthermore, the degradation ability of *Irpex lacteus* was quantitatively evaluated in liquid medium supplemented with textile dyes. The absorbance of the samples and the control were compared daily at a determined wavelength for each textile dye by means of UV-vis spectrophotometer [5]. It was determined that *Irpex lacteus* can degrade up to 99% of the textile dye contained in the liquid medium within 7 days after inoculation.

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