

Minimum of enzymes cocktail obtained from white rot fungi by solid state fermentation to cellulase total activity

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Enzymatic hydrolysis of cellulose from biomass sources requires the action of multiple enzymes, which become important to use a minimum of enzyme cocktail that may be defined as the minimum number of enzymes, at minimum levels and the optimum combination for better performance enzymatic activity in the saccharification process. The objective of this study was to determine the levels of enzymatic extracts of five white rot fungi, obtained by solid state fermentation, to compose a minimum of enzymes cocktail for maximum cellulase total activity (FPase). In determining the activity FPase, was followed by the method described by Ghose (1986). For the optimization of FPase activity, crude extracts of each fungus were mixed simultaneously (cocktail) at different volumes, defined by DCCR (Delineation Central Composite Rotational). The matrix DCCR generated by the Design-Expert 8.0 software for the five variables (fungi) in five levels (volume of extract) determined the achievement of 50 assays.

At the end there was significant increase in FPase activity in all cocktails formed by the extracts of the five fungal added simultaneously as compared with the individual extracts. And through the response surface methodology, it was possible to determine a cocktail for maximum FPase activity under the conditions used.

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