

MOLECULAR IDENTIFICATION OF YEAST STRAINS, ISOLATED FROM CASSAVA'S ROOT (*Manihot esculenta*), FERMENTATION.

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ABSTRACT

With the advance of technology, the strains of yeast have been selected according to desirable characteristics to the process and the product. The yeast used in the fermentation process must present certain characteristics to ensure that the fermentation yield. The productivity and efficiency of fermentation, ethanol tolerance and temperature, resistance to high concentrations of sugars, the ability to flocculate and produce or not certain components of the beverage flavor and the metabolites produce, are constant sources of interest. In this study, the initial goal was to isolate yeast in the process of natural fermentation of cassava, and identify for molecular biology for further fermentation tests and hydrolysis of starch to ethanol production. The natural fermentation of cassava occurred for 7 days and every 24 hours aliquots collected and diluted in saline solution 0.9% performing successive dilutions until 10^{-7} and for each dilution was made in Middle GPYagar cultivation and incubated at 30° C for 3 days. The colonies were counted and differentiated according to your morphology and representative types. Were purified by three times stretch marks in plates containing Middle GPYagar and incubated under the same conditions. The extraction and purification of DNA from purified colonies 40 was held with HIMEDIA kit. The amplification by PCR primers used ITS-1 (5-TCC ˆ GTA GGT GAA CCT GCG G-3 ˆ) and ITS-4 (5 '-TCC TCC GCT TAT TGA TAT GC-3 ') and were viewed in 1.5% agarose gel. Sequencing reactions were performed with 4 samples, using the DYEnamic ET dye Terminator kit cycle sequencing (Amersaham). The sequences were compared to the genbank database using the Blast and phylogenetic reconstruction using MEGA 7 were considered the sequences with high rate of identity (> 98%), and the evolutionary history is implied by using the method of maximum likelihood. In this investigation, we observed the presence of *Candida natalensis*, *Pichia* sp., *Yamadazyma* sp., all belonging to the order Saccharomycetales. This study is preliminary to identify yeasts naturally adapted cassava roots in fermentation process.

Keywords: Fermentation. Phylogeny. Ethanol.

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