SACCHAROMYCES CEREVISIAE GROWTH ANALISES UTILIZING *OPUNTIA FICUS-INDICA* AS SUBSTRACT

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Opuntia ficus-indica, a species of the Cactaceae family, is an important nutritional source in the Brazilian northeast region. Its nutritional composition consists of to vitamin C, protein, carbohydrates, fibers and potassium. So, O. ficus-indica is an excellent carbon source for the growth of Saccharomyces cerevisiae, also used for single cell protein production. This work had the objective of analyzing the influence of different parameters as pH, palm section, carbon source, dilution of the palm extract, agitation, temperature and inoculum rate over the growth of S. cerevisiae. The palm was treated by trituration and centrifugation. The supernatant was used as culture medium for the yeast growth. Pre-inoculum was realized in 100ml of YPD for 12 h, 30oC and 150rpm. Pre-grown cells were washed in saline solution and inoculated in Erlenmeyer's flaskes containing 150ml of palm extract. Samples were taken in regular intervals of time. YPD culture medium was used as control. Biomass quantification was realized by spectrophotometer and sugar concentration by DNSA. The best growth condition (DO600= 5.1) was achieved with pH 4.0, 1.0 % inoculum rate, molasses addiction, complete palm, 150 rpm and 30ºC. This result correspond to 55% of the final biomass obtained in control medium (DO600=9.26). These results suggest that addition of molasses could have induced a better biomass formation than sucrose. The presence of others sugar in epidermis also could have influence in the partition of the palm.. This work's objective was social-economic research; this study allows the empowerment of dietary food with high quality and a healthy product.

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