

Ж-л "Biotechnologia Acta" Т. 12, № 2, 2019
С. 71-78, библ. 20, англ

[FERMENTATION OF SUGARCANE BAGASSE HYDROLYSATES BY *Mucor indicus*](#)

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[Abstract](#)

The aim of the research was to analyze the fermentability of sugarcane bagasse prehydrolysates using *Mucor indicus*. The prehydrolysates were obtained by acid prehydrolysis of sugarcane bagasse and were detoxified before fermentation. A mold strain was also adapted to the inhibitors contained in the prehydrolysates. The production of ethanol and sugar consumption were investigated under aerobic and oxygen limited conditions. For the original strain, the consumption of sugars was incomplete and ethanol was produced at a yield of $0.39 \pm (0,02) \text{ g g}^{-1}$. The increased tolerance of *M. indicus* to the inhibitors resulted in a complete fermentation with total glucose consumption. Most of the xylose was consumed in all experiments, with the highest consumption in aerobic fermentations. Ethanol was the main product of fermentation and its yield was $0.41 \pm (0,02) \text{ g g}^{-1}$ at oxygen limited conditions and $0.37 \pm (0,02) \text{ g g}^{-1}$ at aerobic conditions. The use of other carbohydrates besides the monosaccharides was also investigated. Another advantage of *M. indicus* detected during the investigation was its ability to ferment pentoses, hexoses and oligosaccharides.

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