

TITLE: LACTIC ACID BACTERIA FOR THE PRODUCTION OF ARTISANAL ACID BEERS

AUTHORS: GIL, P., GALLIANO, M., PIANCA, G.S., CUNHA, L.S., GRANJEIRO, P.A., MAGALHÃES, J.T.

INSTITUTION: UNIVERSIDADE FEDERAL DE SÃO JOÃO DEL-REI, DIVINÓPOLIS, MG (AVENIDA SEBASTIÃO GONÇALVES COELHO, 400, BAIRRO CHANADOUR, DIVINÓPOLIS, MG)

ABSTRACT:

Brazil is the third largest market for artisanal beers and Minas Gerais is the second state with the largest number of breweries. Microbreweries are a special niche market, that of customers who want to consume differentiated products, exclusive and of the highest quality. In Brazil, a production technique that is growing is that of sour beers. The acidity can be caused by special yeasts or by lactic bacteria. Today, in the Brazilian market, practically a kind of lactic acid bacteria (LAB) is commercialized for the production of sour beers. The market trend demands diversity in the products and we highlighted the use of LAB. The objective of this work were verify the potential of 3 different species of LAB in producing sour beers. The ability to survive and acidify the wort formulated with and without ethanol was evaluated. The bacteria were reactivated for 24h at 37°C in whey. Cells were washed with saline and about 10^7 CFU / mL were added to 500 mL of ethanol-free wort, which was incubated at ambient and 37°C. The number of survivors was evaluated at times zero, 24, 48, 72 and 96h. The wort containing the commercial bacteria and without the addition of bacteria were used as controls. Resistance to ethanol was verified by adding 10^{8-9} / mL of the bacteria in must with 3% ethanol. The number of survivors was evaluated at times zero, 8 and 24 hours. The pH was measured at each time in the experiments. All bacteria acidified the wort with and without ethanol at a pH of about 4 to 5. Two of them survived within the 4 days of testing and the temperature had no influence on their survival. These bacteria well supported the ethanol concentration of the must, with a reduction of 1 to 2 log CFU / mL. In conclusion, two species of LAB have potential to be used as input in the production of artisanal acid beers and demonstrated the diversity industrial application of this group of bacteria.

Development Agency: Capes, Fapemig, CNPq

Keywords: Lactic acid bacteria, artisanal beer, acid beer, wort