PREPARATION OF A PROBIOTIC, MILK-FREE BEVERAGE FROM CARROT JUICE

Nirmeen Tahboub[1], Judit Krisch PhD[2], Prof. Kornél Kovács[3]

[1]Institute of Biology, University of Szeged
[2]Institute of Food Engineering, University of Szeged
[3]Department of Biotechnology, Institute of Biology, University of Szeged

Probiotics have several advantages for human health. Since most of the probiotic foods are dairy products, they cannot be consumed by humans who are vegans, allergic to milk proteins, or have lactose intolerance. While looking for alternative food matrices, the suitability of carrot juice as a raw material for the production of probiotic food with *Lacticaseibacillus casei* and *Levilactobacillus brevis*, and a mix culture of both the strains was investigated. Sterilized fresh carrot juice was inoculated with the above mentioned probiotics and bacterial growth, pH changes and antioxidant status were examined during the fermentation. Both LAB strains were capable of growing well in the carrot juice supplemented with 1 % (v/w) glucose. Moreover, 10^7 CFU/ml initial cell concentrations of the three experimental probiotic solutions resulted in 10^8 CFU/ml after 24 h of inoculation, and were kept viable up to the end of fermentation (72 h). Due to intense metabolism of the bacteria strains, carrot juice media were acidified to a pH level of less than (4.5). Antioxidant status were measured by the ferric reducing power (FRAP) and radical scavenging potential (DPPH). Total phenolic content and total carotenoid content were also determined. Fermentation with the probiotics increased the antioxidant power of the carrot juice.