Vol. 28, 2010, No. 5: 392–406 *Czech J. Food Sci.*

Effect of Milk Chocolate Supplementation with Lyophilised *Lactobacillus* Cells on its Attributes

Dorota ŻYŻELEWICZ[1], Ewa NEBESNY[1], Ilona MOTYL[2] and Zdzisława LIBUDZISZ[2]

[1]Chair of Starch Processing and Confectionery, Institute of Chemical Food Technology and [2]Institute of Fermentation Technology and Microbiology, Faculty of Biotechnology and Food Sciences, Technical University of Lodz, Lodz, Poland

Abstract

Żyżelewicz D., Nebesny E., Motyl I., Libudzisz Z. (2010): **Effect of milk chocolate supplementation with lyophilised *Lactobacillus* cells on its attributes**. Czech J. Food Sci., 28: 392–406.

Manufacturing of novel foodstuffs supplemented with live probiotic bacteria has recently been intensively investigated. The supplementation of confectionery with probiotics is troublesome since some unit technological processes are conducted at high temperatures and the products are usually stored at ambient temperature. Our group has developed a method of the production of milk chocolate, sweetened with either sucrose or isomalt and aspartame, containing 32, 36, or 40 g/100 g fat, and supplemented with live cells of probiotic bacterial strains: *Lactobacillus casei* and *paracasei*. This new milk chocolate displayed the same sensory properties as the reference, probiotic-free chocolate. The number of live bacterial cells was maintained at the functional level of $10^6 \div 10^8$ CFU/g after keeping for 12 months irrespective of the temperature. The highest number of live probiotic bacteria survived in the chocolate kept at 4°C. Thus the product can be regarded as functional food.

Keywords: milk chocolate; properties of chocolate; lyophilisate; LAB