

TITLE: VIABILITY OF PROBIOTIC CULTURES ADDED IN YOGURTS

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ABSTRACT:

Nowadays, several products considered as functional foods have been developed, mainly with probiotics. These, in turn, are considered living microorganisms that when consumed properly promote health benefits. The incorporation of these microorganisms into different products reinforces their functional properties, resulting in increased consumption mainly by those seeking a healthier lifestyle besides adding excellent sensorial characteristics. In dairy products, the most commonly used probiotic bacteria are *Lactobacillus acidophilus* and *Bifidobacterium*. These microorganisms have the ability to adhere to the intestinal mucosa and are tolerant to acids and bile and are safe when ingested. The purpose of this research was to elaborate two yogurts with different probiotic cultures added: *Lactobacillus acidophilus* and *Bifidobacterium*, respectively, and evaluate the viability of these bacteria after 0, 7, 14 and 21 days under refrigeration. The technique used was pour plate on with 1 mL inocula of the sample dilutions. For the quantification of *Lactobacillus acidophilus* and *Bifidobacterium* MRS agar was used, however the quantification of the microorganisms of the genus *Bifidobacterium* were quantified on MRS agar supplemented with lithium chloride (0.1%), cysteine HCl (0.05%) and dicloxacillin (0.5 mg / L), both cultures incubated at 37 ± 1 ° C for 72 hours in anaerobiosis. The results of probiotic viable cell counts performed at different storage times demonstrated that the initial addition of bacteria was sufficient to classify yogurts as probiotic products, since values higher than 10^6 UFCg⁻¹ were found and this would be the lowest limit set by the International Standard IDF / FIL for a food to be declared probiotic. It is recommended that the amount of inoculated microorganisms remain viable in the final product, although this depends on factors such as types of crop strains used, interaction between other species present, presence of dissolved oxygen and type of raw material used, among others factors. There was no significant difference between the samples ($p < 0.05$). The study showed that yogurts made from different cultures can be considered as probiotic food since they had minimal bacterial counts during storage times, however, it is recommended that more studies have to be done to optimize the viability of probiotic microorganisms.

Keywords: probiotics, functional food, dairy products, bacteria

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