Study of The Growth of a Strain of Lactic acid Bacteria Sc.ThermophilusT2 Modeling Test

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Abstract

The fermentation of many foods by lactic acid bacteria is one of the conservation techniques practiced by man since antiquity. They act via some of their metabolism products, capable of inhibiting the development of bacterial spoilage flora and / or pathogens. In recent years this method of conservation has aroused the interest of scientists indeed some lactic acid bacteria are able to produce antibacterial substances called bacteriocins. Their use as an alternative to chemical additives has opened new avenues for obtaining better quality food products with a longer shelf life.To optimize the culture conditions and the production of bacteriocin we have been brought back to carry out an experimental design to evaluate the effect of 3 factors(T °, salt and pH)The effect of pH, temperature and NaCl on the growth and acidifying power of Sc thermophilus has been studied at three levels:(5, 6 and 7)for the pH factor,(32, 37 and42 ° C) for the temperature factor T ° and(0, 30 and 60 g / l) for the concentration of salt. At the end of this experiment an experimental model has been established which gives a very good concordance with the theoretical model (R2= 0.91). The various medical advantages announced for Bifidobacterium spp. what's more Lactobacillus spp. include: commitment to a quicker recolonization of the digestive microbiota after organization of anti-infection agents, therapy and avoidance of the runs, lightening of clogging, conceivable therapy of incendiary gut illness, decrease in lactose narrow mindedness in certain people, decrease in serum cholesterol level, expanded protection from microbial diseases, sway on invulnerable capacity, and expected job in malignant growth counteraction (Leahy et al., 2005; Möller and De Vrese, 2004; Moriya et al., 2006; Varga, 1999; Zavisic et al., 2012).

The remedial impacts applied by probiotic microscopic organisms are subject to the quantity of reasonable microbial cells arriving at the human stomach (Ghoddusi and Hassan, 2011; Leahy et al., 2005). Administrative specialists all over the planet are searching for confirmation that a probiotic item can convey reasonable microorganisms at adequate numbers to the digestive organ to give an advantage to the purchaser. Centralizations of no less than 106 settlement shaping units (cfu) per gram should be available at the hour of utilization in the event that a wellbeing guarantee is to be made (Ashraf and Shah, 2011; Codex Alimentarius Hungaricus Commission, 2004; Gläser, 1992; Karimi et al., 2012; Sanders and Huis in't Veld, 1999; Shah, 2000; Van de Casteele et al., 2006).

Not at all like exemplary yogurt microbes, probiotic creatures fill gradually in milk and, in this way, Streptococcus thermophilus and Lactobacillus delbrueckii subsp. bulgaricus are frequently added to refined milks to accelerate the aging system (Ashraf and Shah, 2011; Tharmaraj and Shah, 2003). For mechanical or different reasons, lactobacilli and bifidobacteria are now and again likewise utilized in blend with mesophilic lactic/fragrant societies, for example, lactococci (i.e., Lactococcus lactis subsp. lactis, Lc. lactis subsp. cremoris, and Lc. lactis subsp. lactis biovar. diacetylactis) and leuconostocs (e.g., Leuconostoc mesenteroides subsp. cremoris) to make probiotic buttermilk or comparable aged dairy food sources (Antunes et al., 2007; Paraschiv et al., 2011; Rodas et al., 2002).

Straightforward, solid, and modest strategies are expected to guarantee that the necessary least quantities of probiotic microorganisms - and those of yogurt starter life forms and mesophilic lactic/fragrant societies also - are available in business aged milks (Ashraf and Shah, 2011; Saccaro et al., 2012). Nonetheless, the presence of numerous and phylogenetically firmly related species in these items makes the differential or specific identification of probiotic life forms and starter microscopic organisms troublesome in light of the closeness in development prerequisites and covering biochemical profiles of the species. Regardless of the way that culture-free sub-atomic instruments for the evaluation of probiotic creatures in business items have as of late been created (García-Cayuela et al., 2009; Matijašiæ et al., 2010; Reimann et al., 2010; Tabasco et al., 2007), food makers actually will quite often depend on regular plating methods for count purposes (Elahi et al., 2008; Fachin et al., 2008; Miranda et al., 2011; Tharmaraj and Shah, 2003; Van de Casteele et al., 2006).

A wide scope of culture media have been depicted for particular and differential identification of probiotic microorganisms in blended populaces, and these have been the subject of extensive surveys (Ashraf and Shah, 2011; Charteris et al., 1997; Karimi et al., 2012; Roy, 2001; Shah, 2000; Tabasco et al., 2007; Van de Casteele et al., 2006). It merits bringing up that differential list of LAB and bifidobacteria species is generally founded on visual perception of states. Notwithstanding, state morphology is a generally unsound phenotypic characteristic. Consequently, particular media ought to be liked for count purposes (Saccaro et al., 2012; Talwalkar and Kailasapathy, 2004; Van de Casteele et al., 2006).

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