

عنوان مقاله:

Effect of different levels of inulin and oligofructose on the survival of probiotic bacteria in symbiotic Doogh

محل انتشار:

پنجمین کنفرانس ملی و اولین کنفرانس بین المللی کشاورزی ارگانیک و مرسوم (سال: 1396)

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خلاصه مقاله:

Probiotics and prebiotics are used in functional foods and because of interaction and specific mechanisms with the human gut exert their desirable effects. In recent years, health effects of prebiotic compounds such as Inulin and Oligofructoses have been more considered. Doogh is a traditional fermented dairy product that has more consumption and has become very important in Iran. So that adding probiotic bacteria and the viability of them can contribute to improving the health of consumers. The aim of this study, was to evaluate the effects of Inulin (1%, 2% and 3%), Oligofructoses (1%, 2% and 3%) as a prebiotic compounds compared with control sample (without prebiotic) along with bacteria inoculation of lactobacillus acidophilus and Bifidobacterium lactis as starter (1%) to produce symbiotic Doogh and assessment of physicochemical characteristics and the viability of probiotic bacteria in the Doogh during 21 days of storage. The results of the ANOVA on different treatments inoculated with 1%, probiotic bacteria indicated that solids non-fat (SNF), lactobacillus acidophilus and Bifidobacterium lactis bacteria count were significantly ($P < 0.01$) different among the treatments. The effect of time in the microbial starter inoculated with 1% was significant on acidity, pH and lactobacillus acidophilus and Bifidobacterium lactis bacteria count ($P < 0.01$), but had no significant effect on SNF, texture, colour and flavor ($P > 0.01$). Viability of probiotic bacteria (as logarithm of the number of bacteria) used in the all samples with different levels of Inulin and oligofructose was more than 5 CFU/g which was in accordance with the national standard of Iran for probiotic Dooghs. The highest survival of bacteria in the microbial starter inoculated with 1% was related to Doogh containing 1% Inulin on 21th day of storage. The highest and the lowest survival of bacteria for Bifidobacterium lactis in the microbial starter inoculated with 1% was related to Doogh containing 2% Inulin and control respectively. In overall, the results showed that using of inulin and oligofructose could be produced a synbiotic Doogh with desirable physicochemical and containing probiotic bacteria with improved survival.

کلمات کلیدی:

Doogh, Probiotic bacteria, Inulin, Oligofructose

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