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Production and evaluation of stirred synbiotic fermented milk fortified with fig fruit

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Abstract

The objective of this study was to produce stirred probiotic fermented milk fortified with fig (*Ficus carica L.*) to be a source of milk ingredients like milk protein, calcium, magnesium, vitamin B12 and probiotic bacteria. In addition to rich fruit ingredients such as dietary fiber, polyphenols, antioxidants and different minerals. Therefore, figs puree were added to the milk (5, 10 and 20%) and the results obtained showed that, samples of T3 (with 20% fig puree) have the highest values for dietary fiber and polyphenols, which were (0.61 g and 35.85mg GAE/100g) respectively. Also these samples have the highest percentage of antioxidants, as they have the lowest value of IC50 (13.89 mg/ml) and highest value antiradical power (ARP) (0.0719). Samples of T3 have the highest contents of K, Mg, Fe, Ca and P and their levels were 150.65, 15.37, 1.13, 248.75 and 136.95 mg /100g, respectively. The addition of fig puree in different concentrations in fermented milk effect on the growth kinetics of *L. acidophilus*, where led to a decrease pH and increase titratable acidity, because of the increase activity of *L. acidophilus*, as fig is an excellent substrate for the growth of them. The maximum counts of *L. acidophilus* at fresh and after 15 days of storage at 4±1 °C were 11.43 and 10.74 log cfu/ml for samples T3. Sensory evaluation showed that fig-fortified samples (T1, T2 and T3) were sensually acceptable compared to the control samples.

Keywords: Synbiotic; Fig fruit; Antioxidant; Total phenolic conten.

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