ABSTRACT

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UTILIZATION OF LACTIC ACID BACTERIA AS PROBIOTICS IN CARROT (Daucus carota L.) JUICE FERMENTATION BEVERAGE
(xvi + 80 pages : 10 tables, 23 figures; 26 appendices)

Previous study has reported that carrot (Daucus carota L.) contains bioactive compounds that promote beneficial effect such as antioxidant. This research was designed to determine the carrot juice fermented beverage as a potential probiotics fermented beverage. Carrot juice fermented beverage was made from various concentration of sugar (4%, 6%, 8%, 10%) and skim milk (4%, 6%, 8%). The fermented beverage was fermented for 12 hours using lactic acid bacteria Lactobacillus plantarum and Streptococcus thermophilus (1:1, 3%). Physicochemical properties of fermented beverage including pH, total titratable acidity, and total lactic acid bacteria were observed. The chosen concentration of sugar (4%) and skim milk (4%) was used to determine the best percentage of carrot juice (25%, 50%, 75%, and 100%). The best percentage of carrot juice was 75% which had pH values of 3.93 ± 0.01, total titratable acidity of 0.77± 0.22 %, and total lactid acid bacteria of 2.43 x 10⁹ cfu/ml. The product was analyzed for several parameters including sensory analysis, total phenolic compound, total flavonoid compound, antioxidant, and toxicity.

Keywords : carrot, fermented beverage, lactic acid bacteria, probiotics

References : 83 (2000-2016)