

## Evaluation of Probiotic Activity of Drinking Yoghurt in the Presence of Two Natural Fruit Pulps

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Drinking yoghurt (DY) is one of the most popular fermented dairy products in the market which can be used as a carrier of probiotics and prebiotics. According to new findings, *Streptococcus thermophilus* (ST) can be considered as a probiotic microorganism. Fruits contain prebiotic carbohydrates such as oligosaccharides, antioxidants, and polyphenols. In this study, the changes of microbiological, chemical, and sensory properties of fruit pulps incorporated DY which produced using single strain ST culture was evaluated. DY was prepared using two levels of (5% and 10%) strawberry pulp or mixed berry pulp and with control. The control sample was prepared without adding fruit pulps. The viability of ST was evaluated for 28 days of refrigerated storage (4 °C) with 7 days interval using M17 agar with  $\beta$ -glycerophosphate. The sensory evaluation was conducted by using 30 untrained panelists according to the 9 points hedonic scale. The sensory evaluations showed that the DY, containing 5% strawberry and 10% mixed berry had better overall acceptability than other treatments. Fruit pulp incorporated DY showed a lower ( $p < 0.05$ ) pH value and higher titratable acidity than that of the control during storage at 4. Strawberry 5% incorporated DY and mixed berry 5% incorporated DY showed higher ( $p < 0.05$ ) ST counts throughout the storage period, compared to the 10% strawberry or mixed berry incorporated DY and that of the control. This may be due to the low initial pH and higher titratable acidity due to the addition of fruit pulps. The DY samples incorporated with 5% strawberry pulp showed higher ( $p < 0.05$ ) ST counts (8.53 0.03) log cfu g<sup>-1</sup> at 28 days of refrigerated storage compared to the 5% mixed berry incorporated DY (8.44 0.01) log cfu g<sup>-1</sup> and that of the control (8.21 0.02) log cfu g<sup>-1</sup>. These results revealed that the addition of fruit pulps increased the viability of ST during refrigerated storage.

**Keywords:** Drinking yoghurt, Microbiology, Probiotic, *Streptococcus thermophilus*