

Development of set yoghurt incorporated with Black Plum (*Syzygium cumini*) fruit extract

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Black plum fruit (*Syzygium cumini*) is an under-exploited fruit with abundant medicinal properties available in Sri Lanka, especially in the Northern Region. It is a rich source of Anthocyanin, a natural pigment with bioactive properties. This study was aimed to develop set yoghurt incorporated with anthocyanin extracted from black plum fruit and to evaluate the sensory quality and the functional properties of the produced set yoghurt. Black plum fruits were collected freshly, washed and juice was extracted and homogenized. Milk was pasteurized at 80 °C for 15 minutes and cooled to 42 °C. Sugar (10%) and gelatin (0.8%) were added and homogenised at 65 °C for 20 minutes and cooled to 42 °C followed by the addition of 0.1% vanilla, starter culture 2% (*Lactobacillus bulgaricus* and *Streptococcus lactis*, 1:1), black plum juice extract (5%, 10%, 15%). Yoghurt was poured into cartons and incubated at 42 °C for 3 hours. Then they were transferred to a refrigerator at 4 °C and kept overnight. The produced yoghurts were tested for sensory quality using the set yoghurt produced in the same manner, but without fruit extract as control. Milk sample was analyzed for pH, fat and total solids. Yoghurt samples were analyzed for sensory quality such as taste, colour, texture and aroma in order to select the most preferred sample by a consumer panel consisting of thirty five untrained panelists using a ranking test to select the suitable amount of juice extract. pH, fat and total solids of milk were 6.4±0.1, 13.5±0.2 % and 3.5±0.05 %, respectively. Yoghurt samples differed significantly ($p < 0.05$) in their sensory qualities. Based on the sensory analysis, yoghurt containing 10 % black plum juice was selected as optimum and selected yoghurt sample was analysed for *Escherichia coli* count according to SLS 824 (Sri Lanka Standards Institution, 1989) using MacConkey's agar. All the yoghurt samples were negative for *E. coli* with 10⁻¹ dilution. Among the yoghurts added with different percentage black plum fruit extract, 10% black plum extract added yoghurt had the most preferred sensory quality.

Keywords: Anthocyanin; Black plum extract; Sensory; Yoghurt

