

DEVELOPMENT AND QUALITY ASSESSMENT OF LOW SUGAR CHEESE FLAVOURED SPICY DRINKING YOGHURT

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Fermented dairy products have long been associated with positive health benefits. With a growing interest in health-promoting functional foods, the demand for natural additives has increased worldwide. Low sugar consumption helps to reduce risk of non-communicable diseases. Therefore, the study was conducted to develop low sugar cheese flavoured spicy drinking yoghurt which is more health benefits rather than consuming normal drinking yoghurt. Three different levels of black pepper (*Piper nigrum L.*) powder (BPP) 0.05%, 0.12%, and 0.2% (w/v%) were evaluated to select the best incorporation level and 0.12% BPP level was selected. Then four sugar levels; T₁ 1%, T₂ 2%, T₃ 3% and T₄ 4% sugar (w/v%) were tested in a drinking yoghurt incorporated with 0.12% BPP, 0.02% (w/v%) cheese flavour and 0.15% (w/v%) red chili (*Capsicum annuum*) powder. Sensory properties of the developed drinking yoghurt were evaluated one day after preparation. The sample incorporated with 2% of sugar level obtained the highest overall acceptability in relevance to the lowest acceptable sugar content. Physicochemical (pH and titratable acidity) and microbial properties were determined over 21 days of shelf life in the selected drinking yoghurt under refrigerated conditions (4 °C). The pH and titratable acidity were 4.28 and 1.23% respectively after 21 days of storage under 4 °C. Coliform, yeast and mould growth was not detected during the storage period of 21 days. Developed drinking yoghurt can be used safely up to 21 days without any quality deterioration. In conclusion, 0.12% (w/v) BPP level and 2% (w/v) sugar level with 0.02% (w/v) cheese flavour and 0.15% (w/v) red chilli powder levels could be used to develop a drinking yoghurt with desired physicochemical, microbiological and sensory properties.

Keywords: Cheese flavoured spicy yoghurt, Low sugar, Microbial properties, Sensory properties, Shelf life