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Production of set yoghurt incorporating cassava flour (*Manihot esculenta* Crantz) and the evaluation of its shelf-life and quality parameters

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Cassava (*Manihot esculenta* Crantz), which is a popular tuber crop in Sri Lanka, can be used to manufacture yoghurt while minimizing the nutritive deficiencies whenit is consumed alone. The objectives of the present study were to develop a set-yoghurt with cassava flour to achieve a low production cost and to evaluate its physicochemical, sensory and microbiological properties. Experiments were carried out to determine the best cassava flour (3.25, 4 & 4.5 w/w) and gelatin (0.3, 0.35& 0.4 w/w) percentages in yoghurt. Nine different yoghurt types were prepared with the addition of standardized cow milk (fat 2.5%), cassava flour (3.25, 4 & 4.5% w/w), milk powder (2.8% w/w), sugar (9.7% w/w), gelatin (0.3, 0.35 & 0.4% w/w), egg yellow colouring (0.1% v/v), vanilla flavour (0.1% v/v) and yoghurt culture (2.6% v/v). Physico-chemical properties such as titratable acidity, pH and proximate composition were determined during storage at 4 °C. Furthermore, microbiological (yeast, moulds and *E. coli*) and sensory properties (appearance, taste, aroma, texture, mouth feel and overall acceptability) were also determined. Out of nine yoghurt types, the one with cow milk (83.03% w/w), milk powder (2.8% w/w), cassava (4% w/w), sugar (9.69% w/w) and gelatin (0.35% w/w) was selected as the best product because of its significantly ($P<0.05$) higher sensory properties according to the statistical method ofKruskal Wallis non-parametric one way ANOVA using STATISTIX Computer software (Version 2.0 for Windows). *E. coli* was not detected in the yoghurts tion andat the time of producduring storage, thus, showing hygienic production procedure. Shelf-life of the product was 15 days considering the changes in titratable acidity and microbiological and sensory properties. Moreover, the percentages of moisture, total solid, protein, fat, ash and crude fiber of the final product were 74.32, 25.68, 3.33, 2.82, 0.76 and 0.063% , respectively. The raw material cost of the final yoghurt was Rs. 8.55 and the cost reduction was approximately 16% compared to normal yoghurts. Addition of cassava flour appears to improve mouth feel, and reduce whey separation in the product. Therefore, it can be concluded that cassava flour can be successfully incorporated into yoghurts to produce value-added cassava flour incorporated set yoghurt with higher nutritional and sensory properties and reduced production cost.

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