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Production of fruit yoghurt with incorporated *Annona* (*Annona muricata* L.) and evaluation of its physicochemical, microbiological and sensory properties

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Fruit yoghurts can have many health benefits on humans compared to normal yoghurts because fruits have high therapeutic and nutritional properties. Therefore, fruit yoghurts are becoming popular among a health conscious population in Sri Lanka. There are many underutilized fruit species in Sri Lanka and their uses are yet to be explored. Moreover, these underutilized fruits can play a vital role in human nutrition because of their therapeutic and nutritional properties. Therefore, the objective of the present study was to develop a fruit yoghurt with incorporated *Annona* (*Annona muricata* L.), an underutilized fruit species growing well in Sri Lanka. Plain yoghurts as well as *Annona* incorporated yoghurts were prepared with cow milk and other ingredients such as sugar and gelatin. *Annona* fruit pieces were prepared by blanching and dehydration methods. Plain type *Annona* jelly fruit yoghurts, stirred type honey incorporated *Annona* fruit yoghurts and stirred type *Annona* fresh fruit yoghurts were prepared in the laboratory. Physicochemical properties of yoghurts such as Total Solid (TS) %, Fat %, Solid Non Fat (SNF) %, titratable acidity and pH during their shelf-life were determined. Furthermore, microbiological and sensory properties of *Annona* incorporated yoghurts were also determined and compared with those of a commercial brand of fruit yoghurt. Sensory properties of yoghurts such as appearance, taste, aroma, texture and overall acceptability were determined on a five-point hedonic scale with 30 sensory panelists. Sensory results were analyzed using Kruskal Wallis non-parametric ANOVA test with the use of STATISTIX computer software (Ver 2.0) for windows. *Annona* jelly fruit yoghurt was selected as the best yoghurt because of its significantly ($P<0.05$) higher sensory properties. Total solid, SNF and fat percentages of *Annona* jelly fruit yoghurts were 21.8%, 8.8% and 3.4%, respectively. Shelf-life of the *Annona* jelly fruit yoghurt was 21 days. In addition to above properties, *Annona* fruit is reported to have high therapeutic properties especially for



diabetic and constipated patients. It can be concluded that *Annona* fruit can successfully be incorporated into yoghurts to produce a value-added fruit yoghurt with higher nutritional and sensory properties.

Keywords: Fruit yoghurt, Underutilized fruits, *Annona*, Sensory properties, Shelf-life