DEVELOPMENT OF COCONUT (*Cocos nucifera*) WATER JELLY

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ABSTRACT

Coconut water is a natural nutritious liquid present inside the coconut fruit. Coconut water is a by-product of the coconut kernel products manufacturing processes. Thus, the present study aims towards the development of a jelly using coconut water as main ingredient with the purpose of utilizing this by-product. Gelatin (1.57%) and citric acid (0.078%) were used as minor ingredients. Three levels of sugar contents (20%, 30%, and 40% (w/w)) were used while all other ingredients kept constant. The prepared product was packed in polypropylene cups and stored under refrigerated conditions (4^0C). Appearance, aroma, texture, taste and overall acceptability were evaluated as sensory attributes using 9 point hedonic scale with thirty untrained panelists. Sensory data were analyzes using Friedman test with the 95% level of significance by MINITB 16.1 statistical software. The physicochemical properties such as pH, titratable acidity and total soluble solids (TSS) were measured for the selected best jelly sample based on the results of sensory evaluation. Aerobic plate count, yeast and mold, coliform and *Escherichia coli* tests were carried out to evaluate the shelf life. The pH, TSS and titratable acidity of the final product were 4.70 ± 0.00, 50 ± 0.00 and 0.036 ± 0.00% respectively. There is no any significant difference of pH ($P > 0.05$) and TSS ($P > 0.05$) during the three weeks of storage period. However there is a significant difference ($P < 0.05$) of the titratable acidity. Jelly sample prepared using the 20% (w/w) sugar received the highest overall acceptability. Based on the microbial analysis, the product is safe for consumption up to 3 weeks period. Conclusively, coconut water can be effectively utilized to develop jelly and further studies are needed to identify the proper storage condition.

Keywords: Coconut water, Jelly, Sensory, Shelf life, Sugar