

Development of Coconut (*Cocos nucifera*) Water Jelly

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Coconut water is a natural nutritious liquid available inside the coconut fruit. Coconut water separated during the manufacturing of coconut kernel products processes as a by-product. 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% (w/w)] and citric acid [0.078% (w/w)] were used as minor ingredients. Three levels of sugar [20, 30, and 40% (w/w)] were used while all other ingredients kept constant. The prepared product was packaged in polypropylene cups and stored under refrigerated conditions (4°C). Appearance, aroma, texture, taste and overall acceptability were evaluated as sensory attributes using 9-point hedonic scale with 30 untrained panelists. Sensory data were analyzed using Friedman test with 95% level of significance by Minitab 16.1. The best jelly sample selected based on the results of sensory evaluation was tested for physicochemical properties such as pH, titratable acidity and total soluble solids (TSS). 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 $0.04\pm 0.00\%$, respectively. There was no significant difference in pH ($p>0.05$) and TSS ($p>0.05$) during the three weeks of storage period. However, the titratable acidity was significantly increase ($p<0.05$) during the storage period. Jelly sample prepared using the 20% (w/w) sugar received the highest overall acceptability. Based on the microbial analysis, the product was safe for consumption up to 3 weeks period. In conclusion, coconut water, a by-product of coconut 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