

Development of a Wine from Water Melon (*Citrullus lanatus*): A Value Added Product from a Tropical Fruit Crop in Sri Lanka

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Wine is generally produced by the fermentation of fruit juice with yeast (*Saccharoinyces cerevisiae*). Ripened fruits have natural sugar, natural acids and pectinase enzyme which ultimately enhance the quality of the product. The quality and the type of commodity dictate the final quality of the fruit- based wine. Hence, the selection of correct fruit commodity is critical in wine making. It has been found that the Jambola (*Citrus grandis*) peels have high amount of pectinase content which has the potential to enhance quality of fruit beverages. Thus, this study was focused to develop a wine from watermelon using baker's yeast and to evaluate the effect of Jambola peels to enhance the quality of the wine. Fruit juice was extracted by crushing the flesh from completely ripened water melon. Quality parameters such as Total Soluble Solid (TSS) and Titratable Acidity (TA) were adjusted by adding 250g sugar and 2.8g of Citric acid for 6litre of solution to prepare for the fermentation. The prepared fruit juices were allowed for fermentation for four weeks with and without treating Jambola peels and by adding baker's yeast. Quality attributes such as pH, TA, TSS and alcohol content were measured using standard protocols. Sensory attributes were evaluated and analyzed using Friedman Test (MINITAB, version 16). Mean TSS and mean TA values of the wine treated with jambola peels were significantly higher ($P < 0.05$) than that of the wine without treating jambola peels. Wine sample treated with Jambola peels was the best with respect to aroma ($p = 0.000$), taste ($p = 0.006$), colour ($p = 0.006$), and overall acceptance ($p = 0.025$) except texture ($p = 0.72$). Further, final mean alcohol percentage of the selected water melon wine sample treated with jambola peels (10.32 %) was in the acceptable range compared to standard wine (9.0- 13.50%). Therefore, water melon wine developed with jambola peels can be recommended as the best wine since it has high quality attributes and high sensory attributes ccmpared to the standard wine and has a potential to improve as a commercial wine.

Keywords: Watermelon, Baker's yeast, Sensory evaluation, Citrus

