

Title: Utilization of excessive ripening melon flesh as melon slushy beverage
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Abstract

The aims of this project were to conduct a marketing survey of melon slushy beverage and to develop appropriate formulation and process with consumer acceptance from excessive ripening melon flesh. From the marketing survey results showed that the most three important attributes required for selecting slushy production from consumers were flavor, aroma and nutritional value. Melons used for the development were of *Pailin* cultivar cultivated at 120 days with total soluble solids of 7-9 °Brix and 47.51% as an average percent yield, supplied from Choncharoen Farm Co., Ltd. For the formulation and process development was conducted first to select the dilute water or soda water added which was found by triangle test that panelists could not detect the difference between them. The study was also investigated on the appropriate amount of melon juice, citric acid, fructose syrup and flavoring in the mixed melon juice. The evaluation of formulations was mostly by means of 9-Point Hedonic scale and Just About Right test. The final formulation obtained was 50 wt% melon juice, 49.775wt% fructose solution, 0.15 wt% citric acid and 0.025 wt% melon flavoring. Moreover, the effect of heat treatment was also studied which could be concluded to an appropriate process for melon slushy beverage as follows, fructose solution was heated to about 85-90°C then melon juice was added and pasteurized at 77°C for 30 seconds. Mixed melon juice was cooled instantly with room temperature water then citric acid and melon flavoring were added before slushing in frozen beverage dispenser. The total soluble solids in final mixed melon juice were at 12°Brix and pH 4.50 - 4.60. For quality measurement in melon slushy beverage showed that the percentage for overrun was 80.3% and 45 minutes for total melting time. The consumer test was conducted on 50 consumers with the targeted group of 20 years old or less to 30 years old consumers. The overall liking score was “like moderately to like very much” (overall acceptance score of 7.56). 92% of the consumers accepted the product and 72% of the consumers said they would buy the product if it was available in the market. 42% of the consumers expected the price to be 10-15 baht per cup while total raw materials cost excluding melon cost per cup was calculated to be about 0.31 baht therefore profit could be estimated from the production.