

# Development of Ready-to-Drink Soymilk Beverage Incorporated with Broken Mixed Fanning (BMF) Liquid and Powdered Tea Aroma

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Dairy beverages are more common in the beverage industry, however, alternating dairy milk with plant-based milk had emerged as an alternative protein source for non-dairy users. Therefore, aiming to develop Ready-to-Drink (RTD) soymilk beverage incorporating tea aroma would be an added value to tea aroma. The present study used different types of liquid and powdered aromas for soymilk formulation. A ranking test was carried out with four trained panelists to find out the most desirable liquid and powdered aroma. Selected liquid aroma (ten times concentrated) and powdered aroma (40% ten times concentrated) were used for further formulations. Among the different formulations, the soymilk prepared from 1% liquid aroma and 2% powdered aroma was selected from the sensory analysis by 30 untrained panelists. The total phenolic content ( $0.24 + 0.06$  mg GAE/ml), the antioxidant activity (IC<sub>50</sub> value  $89.29 + 1.54$  mg/ml), and the total flavonoid content ( $0.08 \pm 0.005$  QE mg/ml) were higher in the powdered aroma. Caffeine was not detected in the liquid aroma. The soy milk yield was  $85.57 \pm 4.52\%$ . There was no significant difference in moisture content and total crude fat content among the samples ( $p > 0.05$ ). Ash content ( $0.58 \pm 0.02\%$ ), fiber content ( $0.096 \pm 0.004\%$ ), carbohydrate content ( $2.33 \pm 0.45\%$ ), and pH ( $5.46 \pm 0.06$ ) were higher in the powdered aroma incorporated sample. Protein content ( $4.15 \pm 0.07\%$ ), energy value ( $33.55 \pm 1.76$  kcal), and calcium content ( $28.00 \pm 2.02$  mg/ml) were higher in the liquid aroma incorporated sample. The yeast, mold, and total plate count were within the safety margins at a refrigerated temperature. There were no significant changes in the aroma recovery, the pH value was decreased, and TSS value, viscosity, and water activity were increased during the storage period (four weeks). RTD soymilk using a liquid aroma is a cost-effective and alternative protein source.

Keywords: Liquid Aroma, Powdered Aroma, RTD Beverage, Soymilk, Tea Aroma