

## **Determination and Comparative Study of Sugars and Synthetic Colors in Commercial Brands of Fruit Juice Beverages**

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Fruit juice based beverages are potentially high demanded products by the consumers in Sri Lanka. The research was conducted to estimate the total sugar contents in selected commercial fruit juice beverages and to compare the suitability and efficiency of analytical methods; Lane & Eynon titration, UV-Visible spectrophotometry and total soluble solids (Brix value). Further, label information on synthetic colours in selected products were identified and compared with the consumer preference and knowledge on sugar content of the products. The consumer concerns were reported as taste (37%), brand name (28%), price (23%) and nutrition value (8%). Awareness on Recommended Dietary Allowance (RDA) of sugar, added sugar consumption and risk of chronic disease risk was 49% while the awareness on regulation of color coding system of beverages was 68%. The maximum total sugar content, 18.38g/100 ml (titration method) and 18.31g/100ml (UV-spectrophotometry) were determined in Woodapple nectar (Brand No 1). The maximum sucrose content, 10.57 g/100 ml was measured in Mango nectar (Brand No 1). Based on thin layer chromatography (TLC), 79% of fruit nectars contained natural colours while 21% of total samples contained synthetic colours. The total sugar contents measured by both analytical methods were compared using SAS 9.0 software (Randomized Complete Block Design, RCBD). There was no significant difference among two analytical methods ( $P>0.05$ ). In conclusion, the Lane and Eynon titration was the most effective method to detect total sugars in fruit nectars. Brix value was not recommended to determine the total sugar content in fruit juice beverages because of over estimation of the content.

**Key words:** Fruit nectar, Lane and Eynon titration, UV-visible spectrophotometer, Thin layer chromatography