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Research Paper

Physiochemical characterization of stevioside and its compatilibility in selected food products

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■ **ABSTRACT :** Diabetes and obesity are the two threatening problems of the decade that demand the restricted use of sugar by the patients. Both the disorders are dependant on the glucose concentrations of the blood. It is the time for the researcher to introduce new compounds that can satisfy the individuals by replacing the taste of the sugar that can relieve them from the stress of sugar (Sucrose) restriction in their diet. In view of the above demand the current work aims to study one of the natural and an alternative sweetener, stevioside. The work involves the physico chemical characterization of the stevioside and analyzing its compatibility with the selected foods in comparison to the regular sugar. Techniques like sensory analysis, instrumental analysis and statistical analysis were employed. Sensory analysis includes the Threshold Test, Dose Response Test and time intensity Test. HPLC was used as a part of instrumental analysis. The study proved that the sweetness perception of stevioside increased with its concentration up to a limit after which the perception of bitter started. This indicates that the stevioside can be used as an alternative sweetener within the specified concentrations. Moreover, the study also revealed that the sweetness equivalence values for the high potency sweetness are highly system dependent and may vary in different food products. Using water as a medium it has been shown that sweetness of steviosides at 0.0197 and 0.013g had sweetness level equivalent to the sucrose concentrations of 3 per cent and 10 per cent, respectively.

■ **KEY WORDS :** Stevioside, Diabetes, Obesity, Sweetener, Dose response test, HPLC

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