CHEMICAL PROPERTIES OF COARSE PALM SAP SUGAR AS NATURAL ALTERNATIVE SWEETENER

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ABSTRACT

CHEMICAL PROPERTIES OF COARSE PALM SAP SUGAR AS NATURAL ALTERNATIVE SWEETENER

In recent decades, the global rise in obesity and diabetes has become a major public health concern. While various factors contribute to this disease is the role of dietary choices, particularly consumption of sucrose or cane sugar has become under investigation. This study investigates the chemical properties of coarse palm sap sugar focusing on its potential as a natural alternative sweetener. Analytical techniques such as the Benedict test, muffle furnace, UV-Vis spectrometry, FTIR Spectroscopy, Seliwanoff test, and Rebelein method are employed to comprehensively examine the sugar's reducing sugar content, ash content, moisture content, functional groups, and sucrose content. These findings provide an understanding of the suitability of coarse palm sap sugar as a sustainable and healthy alternative sweetener which offers valuable information for industries seeking natural alternatives to conventional sweeteners. This coconut palm sap sugar contains hydroxyl and ketone groups which is very important as it will impact the sweetness and the properties of the sugar. The sugar content that is present in coconut palm sap sugar after being analyzed with UV-Vis is sucrose. The chemical characteristics such as reducing sugar, ash content, and moisture content was analyzed. From the analysis, coconut palm sap sugar has higher total reducing sugar which is 20.5%, high ash content which is 0.34%, and moisture content which is 1.09% compared to sucrose. This study highlights the potential uses of palm sap sugar in the food and beverage sector and contributes to developing information about its chemical properties.

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