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Comparison of sensory and physical properties of sucrose free milk chocolate containing different types of polyols**Wan Aidah Wan Ibrahim**
Malaysian Cocoa Board, Malaysia

Polyols are commonly used to replace sucrose in the production of chocolate that is low in calorie, tooth friendly and suitable for diabetics. Three types of polyols; isomalt, maltitol and erythritol, as well as sucrose were used in pilot plant scale production of milk chocolate. Sensory evaluation was carried out using quantitative descriptive analysis by 10 trained panelists. Result showed that replacing sucrose with different types of polyols did not significantly ($p \geq 0.05$) affects the cocoa taste, sweetness, milky taste, smoothness and melting behavior of the chocolates in the mouth. Consumer test from 100 respondents indicated that chocolate with isomalt and maltitol were equally preferred while chocolate with erythritol was less preferred mainly due to the cooling sensation detected in this sample. The processing parameters used in this study were able to produce sucrose free chocolates with comparable particle size distribution to chocolate with sucrose (measured by Malvern particle size analyzer, UK). Hardness analyses measured at 24 °C using an SMS Texture Analyzer (TA.XT plus, UK) showed that freshly made milk chocolate with maltitol and isomalt were perceived to be significantly ($p \leq 0.05$) harder to break compared to chocolate with erythritol and sucrose. Chocolate containing isomalt and maltitol displayed a quite similar rheological behavior (by HADV 11+ Brookfield viscometer, UK) and chocolate with erythritol showed a closer rheological property to that of sucrose. Color (by Hunterlab MiniScan XE Plus, USA) and surface gloss (by Sheen Tri-microgloss, UK) analyses showed that the physical appearance of chocolates with polyols were fairly stable when stored at chill temperature (16 ± 1 °C).

Biography

Wan Aidah Wan Ibrahim has completed her Bachelor of Science degree in Food Science from University of Leeds, UK and Master of Science degree in Food Technology from Universiti Kebangsaan Malaysia. She is currently working as a Research Officer with Malaysian Cocoa Board in Cocoa Downstream Technology Division.

wanaidah@koko.gov.my

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