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Processing of cocoa products

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Cocoa beans are rich in numbers of beneficial bioactive compounds such as phenolics and phytosterols which benefits human being thus create high demand for new product. Therefore, related researches have been conducted to highlight its value which include the achievement in extracting cocoa butter containing significantly (p<0.05) higher yield (37.05%) and phytosterols content (6441 µg/g of extract) with the lowest oxidative value using supercritical carbon dioxide with cosolvent (SCO2-ethanol) compared to Soxhlet Extraction (SE), ultrasonic extraction method (USE) and supercritical carbon dioxide (SCO2). An alternative beverage has also been developed which refers to a concentrated cocoa drink made of Ivory Coast cocoa nibs. The beverage with fat content of 20%, ground at level 50 produces significantly (p<0.05) the most viscous (5.63 mPa), the highest foam index (10.83%), the highest density (1.0031 g/mL), the highest total solid content (24.36 mg/ ml) and the highest extraction value (10.37%) using espresso machine compared with control (non-defatted bean). The functional properties of cocoa waste (CW) from concentrated cocoa drink was also explored. The ethanol-CW extract was found to contain significantly the highest (p<0.05) TPC and TFC with 52.3 mg GAE/ml sample and 84.36 mg quercetin/ml sample respectively. This was correlated to its high (p<0.05) antioxidant activities in DPPH (IC50 3.58 \pm 0.07 mg/ml) and metal chelating activity (IC50 2.32 \pm 0.09 µg/ml). Successful findings on processing and development of new cocoa base product may increase the demand for value-add product.

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