A NEW ANALYTIC APPROACH TO APPLY COCOA BUTTER EQUIVALENT IN CHOCOLATE

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Chocolate industries are replacing cocoa butter (CB) by cocoa butter equivalents (CBE’s), which has caused technological problems in the production of chocolates, with decrease in the quality of these products, evidencing the search for standardized raw material. The present study analyzed differences among four CBE’s compared with one sample of standard CB, aimed to detect differences in the crystallization behavior of CBE’s not previously visualized. It was used techniques not spread in fat specifications (Differential Scanning Calorimetry - DSC, isothermal crystallization) besides the ones already widespread. The CBE’s and CB demonstrated chemical-physical characteristics according to identity and quality standards, with similar levels of saturated, monounsaturated and polyunsaturated fatty acids, even as contents of tri-saturated, di-saturated, and tri-unsaturated triacylglycerols, although the composition of triacylglycerols of CBE’s distinguishes from the standard CB. Regarding the solids profile and isothermal crystallization, the samples showed greater differences in terms of induction time and maximum solids content. The samples were crystallized by controlled process of tempering and stored at 25 °C; the melting performance (25 °C to 60 °C) was analyzed by DSC in five times of stored: T0 (0hours), T1 (4hours) T2 (8hours) and T3 (12hours), which allowed the visualization of stabilization of samples. However, differences were found among CBE’s with these new assessment tools, showing a tendency to deepen in techniques for better indication of use in chocolates.