

# **The Effect of Collagen Hydrolysate (Instant Gel Schoko) as a Partial Replacement of Cocoa Butter on the Rheological and Sensory Properties of Dark Chocolate**

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Dark chocolate presents high concentration of fat which is directly related to cardiovascular diseases. A recent tendency in the food market is to offer consumers low-fat foods. The challenge is to produce reduced fat alternatives with physical and sensory attributes that resemble as closely as possible to the full fat standard products and at the same time do not change the processing conditions. A study was made of the rheology and sensory analysis of reduced-fat dark chocolate in which part of the cocoa butter (15, 20, 25 and 30%) had been replaced by collagen hydrolysate (Instant Gel Schoko) and were compared with full-fat (no cocoa butter replacement) control sample. The results show that, the amounts of hardness, thixotropy, plastic viscosity and apparent viscosity in dark chocolate increased with decreasing fat content, moreover samples contained least replacement levels had less differences in comparison with control group. Overall, in accordance with findings of rheological and sensory evaluations, in most cases, samples up to 15, 20% replacement had the least differences with control group and can be counted as optimum level for cocoa butter replacement. The results of the present study suggest that it is possible to produce a fat reduced dark chocolate by collagen hydrolysate (IGS) as a fat replacer, which can reduce fat content and increases protein content as well.