Development of a Cost Effective Chocolate Spread and Evaluation of its Physico-Chemical, Microbiological and Sensory Properties

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Currently, Sri Lankan food industry is engaged in developing alternatives for high demanding processed food, of which many raw materials are imported. The purpose of this study was to develop a cost-effective chocolate spread with alternative ingredients and to evaluate its physicochemical, microbiological, and sensory properties. As alternative ingredients, peanuts, soybeans, and sweet potatoes were separately used as the base raw material to formulate different chocolate spreads. At the initial screening, peanut-incorporated chocolate spread was selected through a sensory testing as the most preferred formulation. Subsequently, several formulations of peanut-incorporated chocolate spreads were made with varying amounts of sugar and cocoa powder. The highest preferred formulation with 35.41% sugar and 10.62% cocoa powder was analyzed for its physicochemical properties, proximate composition, and microbial qualities. Total soluble solids, titratable acidity, and pH of the formulation were 71.73 ^{o}Brix, 0.18, and 5.97, respectively. The develop chocolate spread had a moisture content of 31.65%, ash content of 3.91%, crude protein content of 16.55%, fat content of 13.81%, carbohydrate content of 31.37%and fiber content of 2.71%. After pasteurization, the spread had a significantly ($P<0.05$) lower levels of total plate count and yeasts and molds in the accepted range. This study describes that incorporation of peanut as an alternative base ingredient in developing chocolate spreads is a cost-effective approach due to utilization of locally available raw materials.

Keywords: Peanut, Chocolate spread,Sensory evaluation, Proximate composition

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