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**DEVELOPMENT OF CARDAMOM FLAVORED TOFFEE
ENRICHED WITH RED RICE BRAN AND PALM SUGAR**



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ABSTRACT

The growing consumer preference for healthier and functional confectionery products had encouraged the development of nutrient enriched toffees using natural ingredients. This study focused on developing and evaluating Cardamom flavored toffee enriched with Red rice bran and Palm sugar as a value-added alternative to conventional sugar based toffees. This study was conducted to formulate toffees with varying levels of red rice bran and to assess their physicochemical, nutritional, microbial, and sensory properties to determine the most suitable formulation for consumer acceptability. Five toffee formulations (T_1 - T_5) were prepared by varying the percentage of red rice bran (0% - 6.4%) while keeping other ingredients constant. Physicochemical analysis revealed that increasing red rice bran levels significantly increased ($p \leq 0.05$) moisture, ash, and fiber content while slightly decreasing protein, fat, and total soluble solids. Sensory evaluation was conducted by 30 semi trained panellists using a seven point hedonic scale to evaluate color, flavor, texture, taste, and overall acceptability. The results showed that the toffee containing 3.2% red rice bran (T_3) received the highest preference scores due to its smooth texture, pleasant cardamom flavor, and balanced sweetness. Microbial analysis indicated that all samples were within acceptable limits, and T_3 showed the best stability with minimal bacterial and fungal growth. The study concluded that cardamom flavored toffee enriched with red rice bran and palm sugar provided an excellent balance of nutrition, functionality, and sensory appeal. It served as a promising functional confectionery product suitable for health-conscious consumers and offered a sustainable avenue for incorporating underutilized ingredients like red rice bran into value-added food products.

Keywords: Cardamom flavored toffee, Nutritional quality, Palm sugar, Physicochemical properties, Red rice bran, Sensory attributes.

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