USING CHEMPEDAK (ARTOCARPUS CHAMPEDEN) SEEDS AS A BY-PRODUCT FOR THE DEVELOPMENT OF MUFFINS

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ABSTRACT

Seeds of the fruits are commonly be neglected without knowing how useful thay can be especially in the bakery. However, information is lacking concerning the replacement of normal wheat flour with seed flour in baked products. The purpose of this study was to evaluate the effect of substituting normal wheat flour with chempedak seed flour in the development of muffins. The physical properties, quantitative descriptive analysis (QDA) and consumer acceptance in various sensory attributes of muffins were studied. A control and four experimental muffin treatments, in which chempedak seed flour substituted with normal wheat flour at 40% and 60% with and without spermoderm, were prepared and evaluated. Water activity, moisture content, moisture loss upon baking, ash content and microbial analysis were analyzed. Ten semi-trained panelists were recruited for QDA attribute test using unstructured 15cm line scale while 50 untrained panelists were recruited for consumer acceptance test in which the sensory panels compared the acceptability of sensory characteristics of all the muffin variations using 9-point hedonic scale ratings. Analysis of variance of the data indicated significant ($P<0.05$) difference in water activity, moisture content, moisture loss upon baking and ash content. In QDA, a significant ($P<0.05$) higher attribute of sweetness was observed in chempedak seed flour muffins while significant ($P<0.05$) lower value was observed in the attribute of springiness as compared to control muffins. However, no significant ($P<0.05$) difference was found among all treatments and control in the overall acceptability of the muffins. Muffin treatments of 40% with and without spermoderm were chosen to undergo consumer acceptance test (Hedonic). In the hedonic test, the appearance, aroma, flavour, and texture were significantly ($P<0.05$) different between muffin treatments and control, while there was no significant ($P<0.05$) difference found in the overall acceptability. Thus this study demonstrated that chempedak seed flour could favorably replace normal wheat flour at 40% and were satisfactory in terms of acceptance in muffins.