A STUDY ON THE EVALUATION OF SENSORY PARAMETERS ASSESSMENT OF TIME AND TEMPERATURE ON MUFFIN WITH JACKFRUIT SEED FLOUR

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ABSTRACT

The objective of the present study was to investigate the effect of incorporation of jackfruit seed-flour (JSF) with wheat flour in muffins with designated baking times and temperatures in order to develop muffins with eating qualities. Jackfruit seed-flour was used as 25% and 50% weight replacement for wheat flour in jackfruit muffins, and a control muffin (100% wheat flour), which were baked at constant baking temperature and time of 205°C for 15 min. A constant formulation with 25% JSF substitution for wheat flour was selected and subjected at different baking temperatures (175, 190, and 205°C) for timing of 15, 20, and 25 min, respectively. Designated muffins were subjected to sensory evaluation for their attributes assessment, consumer acceptability and physical analyses. Control muffin and 25% JSF-containing muffin with optimal baking temperature and time were then subjected to chemical analyses in order to determine their nutritional values. An increased in JSF substitution resulted in a decreased in height, volume and weight of muffins, while samples in water activity were significantly differed ($P<0.05$) from each other. An increased in baking time and temperature induced an increased in the percentage of weight loss in muffins. In term of sensory profile, the attributes of crust colour, chewiness and crumbliness was increased as the baking time and temperature used was increased while reduced in sweetness and moistness. The acceptance levels including flavour, texture and overall acceptability of JSF muffins were found to be significantly differed ($P<0.05$) from the commercial muffin, except for the appearance and aroma. Muffin sample with 25% JSF substitution that baked at 205°C for 15 min was concluded as the most preferred among the samples and was subjected to chemical analyses. Incorporation of JSF had increased the moisture, ash and protein content but decreased in fat, carbohydrate content as well as energy value.