Development of Nutritious and Marketable Cookie Using Coconut Flour and Unripe Banana Flour

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Cookies are ready to bake snacks made by baking dough that contains flour, fat, sugar, salt, and leavening agents. Cookies have a soft and tender texture than other biscuit products due to its high fat content. Readily digestible starch and sugars available in cookies can cause sudden increase of blood sugar levels. Substitution of wheat flour with a dietary fiber source or resistant starch source will help to counter negative health effects. Therefore, this study was aimed to develop a cookie with coconut flour and unripe banana flour which is more nutritious. Coconut flour showed higher oil absorption capacity (1.22 ± 0.10 g/g) and water absorption capacity (3.36 ± 0.05 g/g) while wheat flour showed the lowest values. Two sets of cookies were prepared using unripe banana flour (UBF) and coconut flour (CF) substituting wheat flour in levels of 10, 20, and 30%. The 10% substitution was chosen after statistically analysing and comparing the results of hardness, colour, spread ratio, moisture content, and weight with the control. Substitution of UBF and CF increased the hardness and reduced the spread ratio. Composite flour mixtures were prepared by mixing UBF and CF in different percentages. Cookies with composite flour: 75% UBF and 25% CF (75B25C) was selected as the best formulation after statistically analysing and comparing the results of physical parameters of the cookies with the control. Cookies containing CF and 75B25C showed significantly higher ($P<0.05$) crude fibre content compared to the control sample. In sensory evaluation, cookies with CF showed highest scores in appearance, odour, texture, and flavour parameters while 75B25C showed lowest scores in appearance, texture, flavour, and overall acceptability. This study showed that there is a potential to develop consumer acceptable, nutritious cookies by substituting 10% of wheat flour with CF and UBF.

Keywords: Coconut flour, Cookies, Crude fibre, Unripe banana flour

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